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Veterinary
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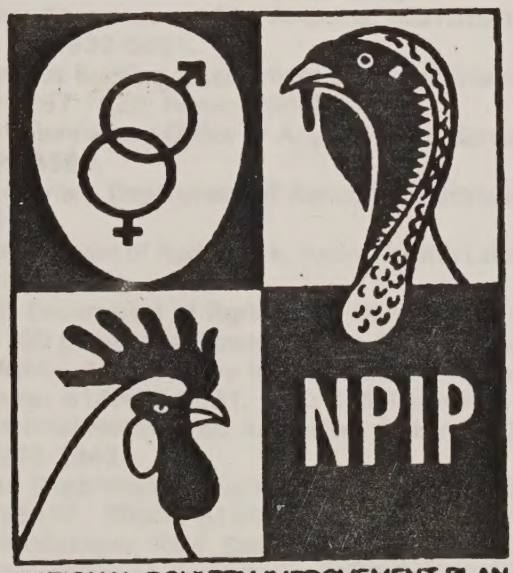
National Poultry Improvement Plan

Western Regional Conference

March 4-5, 1993

Town & Country Hotel
San Diego, Californial

57 Years of Poultry Improvement



NATIONAL POULTRY IMPROVEMENT PLAN

U.S. DEPT. OF AGRICULTURE
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CATALOGING PREP

OFFICIAL STATE AGENCIES COOPERATING IN THE NATIONAL POULTRY IMPROVEMENT PLAN

State	Contact Representative and Key Personnel
AL	**Dr. J. Lee Alley**, State Veterinarian, Department of Agriculture & Industries, P. O. Box 3336, Montgomery 36193. Phone: 205/242-2647.
	Mr. Ray Hilburn, Poultry Pathologist, RR 1, Box 271-A, Luverne 36049. Phone: 205/335-3809.
AZ	**Dr. E. J. Bicknell**, Professor, Veterinary Science, Maricopa Agricultural Center, 37860 West Smith Enke Road, Maricopa 85239. Phone: 602/568-2556.
AR	**Dr. H. M. Ghori**, Arkansas Livestock & Poultry Commission, 1 Natural Resources Drive, Little Rock 72205. Phone: 501/225-5650, FAX: 501/225-9727.
	Dr. Taylor Woods, State Veterinarian, Arkansas Livestock & Poultry Commission, 1 Natural Resources Drive, Little Rock 72205. Phone: 501/225-5650.
CA	**Mr. Bill Mattos**, California Poultry Health Board, 3117-A McHenry Avenue, Modesto 95350. Phone: 209/576-6355, FAX: 209/576-6119.
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CT	**Dr. Jack A. Meister**, State Veterinarian, State Office Building, 165 Capitol Avenue, Hartford 06106. Phone: 203/566-4616.
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GA	**Dr. Thomas G. Dickson**, Georgia Poultry Improvement Association, Inc., P.O. Box 20, Oakwood 30566. Phone: 404/535-5996.
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MS	**Mr. Danny Thornton**, Poultry Epidemiologist, RR 4, Box 146-B, Carthage 39051. Phone: 601/267-3844.
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NM	**Dr. Jerry Schickedanz**, Association Director, Agricultural Extension Service, New Mexico State University, Box 3AE, Las Cruces 88003. Phone: 505/646-3016.
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NC	**Dr. Kenneth G. Keenum**, Veterinary Division, Department of Agriculture, P.O. Box 12223, Cameron Village Station, Raleigh 27605. Phone: 919/733-3757 or 919/733-3986.
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WV	**Dr. Lewis P. Thomas**, State Veterinarian, West Virginia Department of Agriculture, State Capitol Building, Charleston 25305. Phone: 304/558-3418.
WI	**Dr. Donald P. O'Connor**, Animal Health Division, Department of Agriculture, 310 North Midvale Blvd., Madison 53705. Phone: 608/266-7147.
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1993 REGIONAL CONFERENCE
OF
STATE SUPERVISORS AND INSPECTORS
FOR THE
NATIONAL POULTRY IMPROVEMENT PLAN

Topics for discussion

I. Situation Report by State Representatives
   A. Participation Review.
   B. Change in State rules and regulations.
   C. Specific problems in Plan administration.
   D. Fee structure.

II. Amendments to the Plan provisions approved at the 1992 Biennial Conference.
   A. Pullorum testing requirements.
   B. New laboratory protocol for salmonella isolation.
   C. SE bacterin use in egg-type multiplier breeders.

III. Amendments to the Plan provisions printed in Federal Register, 1990.
   A. Environmental drag swabs
   B. New laboratory protocol for salmonella isolation.

IV. Update of listing of Official Laboratories providing testing and diagnostic services.

V. Summary sheets showing testing requirements for Pullorum-Typhoid, MG, MS, and MM.

VI. Status of States:
   A. U.S. Pullorum-Typhoid Clean State.
   B. U.S. Pullorum-Typhoid Clean State, Turkeys.
   C. U.S. Mycoplasma Gallisepticum Clean State, Turkeys.

VII. Pullorum-Typhoid Video.

VIII. U.S. Sanitation Monitored egg-type chickens.

IX. Salmonella enteritidis control program update.

X. Pennsylvania (SE) Pilot Project update.

XI. Avian Influenza update.

XII. Model State Program for Poultry Disease Prevention.

XIII. Exhibition Poultry: How do you handle testing at the shows.

XIV. Mycoplasma situation in States.

XV. Completion of VS 9-4 (Summary of Breeding Flock participation).

XVI. NPIP forms and publications; use and suggestion for improvement.
   A. VS Form 9-2, Flock Selecting and Testing Report
   B. VS Form 9-3, Report of Sales of Hatching Egg, Chicks, and Poults.
   C. VS Form 17-6, USDA Certificate for Poultry and Hatching Eggs for Export.
   D. VS Form 9-5, Report of NPIP Hatchery Participation or Change.
   E. VS Form 9-6, Report to NPIP Official State Agencies of Salmonella Isolations.

F. VS Form 9-8, Flock Inspection and Check-Testing Report.
G. VS Form 9-9, Hatchery Inspection Report.

XVII. Assigning Stock Code numbers.
XVIII. How to obtain an approval number from the NPIP National Office.
XIX. Proceedings from the 1992 Biennial Conference.
XX. Plans for the 1994 Biennial Conference.
XXI. Proposals for consideration by the General Conference Committee and/or the 1994 Biennial Conference.
XXII. "Potpourri" discussion period.

Testing Charges in NPIP programs

Enclosed is a brief summary of testing charges resulting from the request for testing information sent to the States. It is very difficult to summarize this type of information for some of the following reasons:

1. Some States subsidize their poultry industry in part or completely in this regard.

2. Some obtain the testing cost through other means, i.e. participation charge by hatchery or bird numbers, taxes etc.

3. The testing costs will vary by number of tests, or type of test, or the laboratory performing the test.

4. Some companies provide part of the costs of testing, i.e. antigen or other materials.

5. Some States try to absorb part of the entire disease control program from each test conducted.

With these limitations in mind, this information may be useful in administering the NPIP programs in your State. To be more analytical in comparing tests, it may be desirable to compare costs with States that have a similar type of poultry industry in size and makeup and/or the program is administered in a similar manner.

10/4/85

Summary of Testing Charges (Brief initial report for 26 states returning forms)

	No. States No Charge	States Not Reporting	Cost $ Min	Max	No. States Reporting	Cost $ Average
Pullorum-Typhoid (P-T) (Serum-Plate)	4	16	0.05	0.50	6	0.16
P-T (Tube or Microtest)	3	13	0.022	0.30	9	0.11
MG Plate	3	10	0.044	0.50	12	0.14
MG HI	5	17	0.55	1.00	4	0.89
MS Plate	4	11	0.05	0.50	11	0.29
MS HI	5	16	0.55	1.00	3	0.85
MM Plate	4	18	0.10	0.25	3	0.18
MM HI	3	20	No definite figure given			

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[illegible]	[illegible]			
[illegible]	[illegible]			
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[illegible]	[illegible]	[illegible]	0.22	1.00
[illegible]	2	10	[illegible]	[illegible]
[illegible]	3	[illegible]	[illegible]	0.30
[illegible]	[illegible]	[illegible]	0.02	[illegible]
		[illegible]	[illegible]	

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NATIONAL POULTRY IMPROVEMENT PLAN
PARTICIPATION AGREEMENT

* * * * * * * * * * *

This agreement is between the _____, hereafter known as the Official State Agency, and _____ (__ hatchery; __ dealer; __ independent flockowner), hereafter known as the Participant, doing business at _____, covering the cooperative work of the National Poultry Improvement Plan (NPIP).

A. THE OFFICIAL STATE AGENCY AGREES:

1. To keep the Participant informed of all provisions governing participation in the NPIP.
2. To provide State inspectors or to train authorized testing agents to conduct blood tests in the field or to draw blood samples for testing in the laboratory, depending on the approved official test for the disease program for which the flock is a candidate.
3. To conduct efficiently the inspection work called for in the NPIP provisions.
4. To permit the use of the prefix "U.S." in connection with other terms in describing the disease classifications for which products produced under the NPIP are qualified.
5. To investigate all reports of S. pullorum and S. gallinarium isolations in poultry to determine origin of infection.

B. THE PARTICIPANT AGREES:

1. To comply with the NPIP requirements for the desired classification of the products.
2. To promply submit to the Official State Agency the results of all testing done by authorized testing agents.
3. To keep records as required by the NPIP and to make such records available for inspection by the Official State Agency upon request.
4. To report to the Official State Agency all baby chicks, started pullets, or other classes of poultry to be used as breeding flocks prior to the birds reaching 24 weeks of age.

C. REVOCATION OF AGREEMENT:

It is mutually understood that this agreement may be revoked by the Official State Agency for cause or that the Participant may withdraw from the program by notifying the Official State Agency in writing. In case of either action, the Participant agrees to forfeit all rights and benefits derived from participating in the NPIP.

STRAINS OR STOCK HANDLED

EGG-TYPE CHICKENS	MEAT-TYPE CHICKENS	TURKEYS	OTHER

TOTAL INCUBATOR CAPACITY
(Hatcheries Only)

Manufacturer	Type or Model	Setting Capacity	Hatching Capacity	Total Capacity

This Agreement shall take effect on _____ 1, 19___ and shall continue through _____ 30, 19___ and shall be subject to renewal from year to year thereafter by mutual consent of the cooperating parties.

_____ DATE

_____ Owner or Manager

_____ DATE

_____ Representative, Official State Agency

Second Class Postage

Poultry Times

Vol. XL No. 3

Since 1954, the nation's only poultry industry newspaper

February 1, 1993

Photo by Jim Mathis

NPIP appointments: Officials of the National Poultry Improvement Plan, meeting in Atlanta during the 1993 International Poultry Exposition, welcomed new members of its General Conference Committee, appointed by former U.S. Secretary of Agriculture Edward Madigan. The new members, whose terms run through 1996, were introduced by Andrew R. Rhorer, right, NPIP senior coordinator. They are, left to right, Theodore G. Huisinga of Willmar Poultry Co. Inc. in Willmar, Minn.; Dr. Charles L. Hofacre, Ross Breeders Inc. in Elkmont, Ind.; Lawton Wofford, Avian Farms International, Demorest, Ga.; and J.B. Barnes (member-at-large), Hubbard Farms Inc., Statesville, N.C.

Minutes
General Conference Committee (GCC)
National Poultry Improvement Plan (NPIP)
Conference Call

October 30, 1992
2:30 p.m. EST

General Conference Committee Members:

Present: Mr. Ted Huisinga, West North Central, Mr. John Martin, North Atlantic, Dr. Gary Waters, East North Central, Dr. Yan Ghazikhanian, Western, Dr. Charles Hofacre, South Central, Mr. Lawton Wofford, South Atlantic, Mr. J.B. Barnes, Member-at-Large,

Absent:

U.S. Department of Agriculture (USDA) Personnel:

Mr. Andrew R. Rhorer, Senior Coordinator, NPIP, VS, APHIS

MEETING CALLED TO ORDER: 2:30 p.m. by Mr. J.B. Barnes

MINUTES: *Motion by Mr. Lawton Wofford, Second by Dr. Gary Waters,that the minutes be accepted as mailed. Motion Passed.*

1. Docket for proposed changes approved at the 1990 Biennial Conference in Las Vegas, NV.

   Mr. Rhorer reported that proposed changes as approved by the 1990 Biennial Conference of the NPIP was printed in the federal register on June 30, 1992. There were three comment letters. All letters were answered but there were no changes made to the final rule as a result.

   Dr. Gary Waters, noted that some of the changes approved at the Biennial Conference in 1990 were changed at the 1992 Biennial Conference. Mr. Rhorer noted that some of the comments were answered advising the same.

2. Docket for proposed changes approved at the 1992 Biennial Conference in Colorado Springs, CO.

   Mr. Rhorer reported that the docket has already been submitted, and that it is in pretty good shape. Mr. Rhorer reported that in fact, it is approximately 1 year ahead of the docket for the 1990 Biennial Conference.

   Dr. Gary Waters noted that all the work by the GCC and the Industry Advisory Council (IAC) had been beneficial in getting the proposed changes processed in a timely manner.

3. Mycoplasma Antigen status

   Mr. Rhorer noted that minutes of the GCC meeting, and resolutions of the full delegation at the Biennial Conference in Colorado Springs, Colorado, had been sent to all parties involved. Dr. Gary Waters asked if an organized plan of action was presented to the Assistant Secretary for response. Mr. Rhorer noted that this information had been shared with the Assistant Secretary in the normal manner

of action points and response time.

Motion: Mr. John Martin, second by Dr. Yan Ghazikhanian requesting a formal response indicating the actions taken by the Secretary relative to making Mycoplasma antigens, both plate and HI, available on a user fee basis to the poultry industry . Motion passed.

Dr. Gary Waters noted that he would be attending the U.S. Animal Health Association meeting in Louisville, KY next week. He stated he would be glad to ask the group to make a resolution in regards to the Mycoplasma antigen situation.

Dr. Ghazikhanian, noted that a similar resolution was passed last year at U.S.A.H.A. relative to Mycoplasma Antigens.

4. **Meeting with Assistant Secretary Jo Ann Smith, Mr. George Watts, National Broiler Council, Mr. Stuart Proctor, National Turkey Federation, and Mr. Don Dalton, Southeastern Poultry and Egg Association.**

Mr. Rhorer reported to the GCC, that the meeting took place as requested by the GCC. Mr. Rhorer noted that Mr. Robert Melland, Administrator, APHIS, and he attended the meeting with Assistant Secretary Smith. Mr. Rhorer reported that Mr. Dalton advised Mrs. Smith, that it was imperative that the NPIP be fully funded. Mr. Watts told Mrs. Smith, that the administration of the NPIP should not change. Mr. Stuart Proctor stated that hiring a veterinarian for the staff of the NPIP should be priority 1 in the Department. All three of the above stressed the need for the National Veterinary Services Laboratory (NVSL) to make available to the industry Mycoplasma antigens, both plate and HI, on a user fee basis.

Mr. Rhorer noted that he had not heard anything back from the meeting. He told the GCC that he had talked with Mr. Watts, Mr. Proctor, and Mr. Dalton about the meeting. They had not heard anything as a result of the meeting as well.

Mr. J.B. Barnes asked what the GCC should do at this time.

Mr. Rhorer suggested that these be topics at the January meeting of the GCC and the IAC.

5. **Advisory Committee travel policy.**

Budget for the GCC for FY 92 was $ 18,599--this included the meeting in Columbia, MD November 19, 20, 1991 and the Biennial Conference in Colorado Springs, Colorado June 28-July 2, 1992.
Budget for the GCC for FY 93 is $ 3,500

Federal Salary.....	.$ 1,000
Non-Federal Travel.....	$ 1,600
Federal Travel.....	$ 392
Postage, printing.....	$ 322

Budget for the GCC for FY 94 is $ 5,400

Dr. Gary Waters asked how the Department came to such drastic cuts in the budget of the GCC. Mr. Rhorer noted that Mr. J.B. Barnes and he had been asked to respond to possible cuts in the travel budget of the GCC. Mr. Rhorer contacted Mr. Don Dalton, Southeastern Poultry and Egg Association to get industry input. Mr. Barnes, Mr. Dalton and I came to the conclusion that the poultry industry understands the need to cut budgets. Nevertheless, the cuts should be equally based for all advisory committees.

The GCC discussed what benefits come from being an official Secretary's Advisory Committee. Mr. J.B. Barnes stated the only benefit he could see was the official status.

Dr. Gary Waters asked if the supplies could be paid for from the Secretary's Advisory Committee budget and the travel expenses be paid from the NPIP budget. Dr. Waters asked if they would need approval for meeting places, if they were not a secretary's advisory committee.

Mr. J.B. Barnes asked if the GCC would still have the clout, if it were not a Secretary's Advisory Committee. Mr. Rhorer stated the authority to represent regional groups of States on matters concerning the NPIP come from the Code of Federal Regulations. He stated that this may not change if the GCC was not a Secretary's Advisory Committee.

Dr. Waters stated that he has served on other Secretary Advisory Committees. Members on those committees were appointed at the pleasure of the Secretary. The fact that the GCC is elected by official delegates to the Biennial Conference to represent specific regions of the U.S. may contribute to the problem.

Dr. Charles Hofacre asked if the GCC would lose its ability to enact interim changes to the provisions of the NPIP, if it was no longer an official advisory committee to the Secretary.

The GCC asked Mr. Rhorer to study why the GCC became a Secretary's Advisory Committee. Mr. Rhorer mentioned that he would visit with Mr. Ray Schar, former Senior Coordinator, to research the pros and cons of being a Secretary's Advisory Committee.

Mr. Ted Huisinga stated that when he was on the GCC, approximately 15 years ago, this same question came up. Whether the GCC really functioned as an official advisory committee to the Secretary or was an organ of the NPIP.

ADDITION TO MINUTES PER REQUEST OF GCC

Mr. Ray Schar did a library search and reported the history of the GCC.

1942--the committee was called a steering committee of the NPIP.
1943-46-- the committee was called the emergency executive committee...there was no plan conference due to the war.
1947--the GCC was established.
1951--Function was to serve in an advising capacity in the administration of the NPIP.
1958--A letter from Dr. Frank Spencer, Director of Animal Husbandry Division, ARS sent to Administrative Assist Secretary Ralph S. Roberts requesting that the GCC be named a public advisory committee covered by Secretary's memorandum # 1404. June 10, 1958.
Mr. Roberts replied that he did not believe that the department should treat the GCC as a public advisory committee.
1976-- Carter Administration... Chairman of the GCC would be an employee of the Department.

Mr. Rhorer visited with Mr. Bill Jenson, Attorney with the Office of General Council, to discuss the legal aspects of the GCC. He stated that the GCC falls under the Federal Advisory Committee Act enacted in 1976 during the Carter Administration. This Act requires that any committee that advises or makes recommendations to the Secretary be an official advisory committee to the Secretary.

6. **Budget FY 93 and FY 94.**

FY 92 net to the NPIP program .....$ 211,000
FY 93 net to the NPIP program.....$ 204,535
FY 94 net to the NPIP program.....proposed....$ 287,000

Mr. J.B. Barnes stated that the NPIP should continue to have its own line item in the USDA, APHIS budget rather than being absorbed into another sections budget. Mr. Lawton Wofford stated that NPIP should retain the line item in the USDA, APHIS budget.

Motion by Mr. Lawton Wofford second by John Martin that the NPIP should retain its line item in the USDA, APHIS budget. Motion passed.

7. **Staffing of the NPIP.**

Mr. Rhorer advised the group that USDA has advertised the position for a veterinary coordinator of the NPIP. The position is being advertised as a GM 13. At current levels of salaries this is approximately $ 46,000.00.

Mr. J.B. Barnes asked how we will be able to pay the veterinary salary with a FY 93 budget of only $ 204,535. Mr. Rhorer stated that question had come up before and that Dr. Gary Colgrove, director of the Miscellaneous Disease Staff, Veterinary Services, stated that other funds of the Miscellaneous Disease staff of APHIS, VS may be redirected. He stated he did not know the specifics of this.

8. **Staff relocation**

The NPIP staff has been incorporated into a poultry health staff and moved from the Federal Building to the Presidential Building in Hyattsville, MD. Mr. Rhorer noted that the SE Task Force no longer is a task force rather it is a program staff now. It is physically located in the same office as the NPIP.

Dr. Waters stated that the NPIP staff should not be used to conduct the business of the SE program. He felt this is contrary to the mission of the NPIP. The NPIP deals only with breeding flocks and hatcheries. The SE program deals with commercial egg production flocks.

Mr. J.B. Barnes stated that the NPIP should have its own offices.

9. **GCC appointments**

Mr. J.B. Barnes, Member-at-Large
Mr. Charles Hofacre, South Central Member
Mr. Lawton Wofford, South Atlantic Member
Mr. Ted Huisinga, West North Central Member
Mr. Rhorer stated that these appointments will be made at the meeting in Atlanta, Georgia in January, 1993.

10. **International Poultry and Egg Exposition, January 1993**

Mr. Rhorer outlined the activities of the NPIP during the International exposition.

1. Presentation of the Certificate of Appreciation to Mr. Harold Ford.
2. NPIP Booth 6024.
3. Meeting of the IAC and GCC room 163 in the World Congress Center, Atlanta, Georgia, 10-12 noon, Wednesday January 20, 1993.

11. Poultry Digest Article.

Dr. Charles Hofacre told the GCC about his proposal to publish an article about the NPIP in the Poultry Digest. Mr. Rhorer stated that he had contacted the managing editor, Mr. Charles Perry, who was very interested in doing the article. The printing deadline is February, 1993.

Dr. Gary Waters recommended that the NPIP get the American Breeders Roundtable, the American Association of Avian Pathologists, U.S. Animal Health Association, American Veterinary Medical Association, National Broiler Council, National Turkey Federation, and the Southeastern Poultry and Egg Association jointly sign a letter testifying the important contributions made by the NPIP for the betterment of the U.S. poultry industry.

Motion by Dr. Gary Waters second by Dr. Charles Hofacre that a letter be sent to these organizations for endorsement to be included in the article. Motion passed.

12. Mycoplasma problems.

Mr. J.B. Barnes discussed the problems many States are having with Mycoplasma synoviae. There was considerable discussion about some of the participants not doing the official sample sizes. Mr. Lawton Wofford stated that he felt the NPIP was getting a bad rap, and that much of the problems we are seeing are coming from backyard poultry flocks.

Mr. Rhorer reported that the DelMarVA Poultry Industries Federation have approved another survey of their backyard poultry flocks to determine the disease status. Mr. Rhorer reported that many at the meeting felt the problem was due to broilers or roasters that had fell off live haul trucks or had been left in grow out houses that were not clean caught.

13. Regional Conferences.

Mr. Rhorer reported that the States had been sent a questionnaire relative to their preferences to the number of regional meetings, combining certain regions, etc. The results are as follow:

1). 3 regional meetings
2). West North Central, East North Central, North Atlantic combined
3). West
4). South Atlantic, and South Central combined

14. 1994 Biennial Conference.

Mr. Rhorer reported on the results of the survey taken in regards to the 1994 Biennial Conference.

1). Nashville, Tennessee
2). Resort hotel
3). June
4). Same format as 1992 conference

15. U.S. Sanitation Monitored Egg-Type Chickens.

Mr. Rhorer reported on the recent problems with an egg-type hatchery that lost a significant amount of money as a result of having a breeder flock positive for Salmonella enteritidis

Conference Call adjourned 4 p.m.

PRELIMINARY DRAFT OF PROPOSED CHANGES TO NPIP

The National Poultry Improvement Plan (referred to below as "the Plan") is a cooperative Federal-State-industry mechanism for controlling certain poultry diseases. The Plan consists of a variety of programs intended to prevent and control egg-transmitted, hatchery-disseminated poultry diseases. Participation in all Plan programs is voluntary, but flocks, hatcheries, and dealers must qualify as "U.S. Pullorum-Typhoid Clean" before participating in any other Plan program. Also, regulations in 9 CFR 82.33 require that no hatching eggs or newly hatched chicks from egg-type chicken breeding flocks may be moved interstate unless they are classified "U.S. Sanitation Monitored" under the Plan or meet the requirements of a State classification plan determined by the Administrator of the Animal and Plant Health Inspection Service (APHIS) to be equivalent to the Plan.

The Plan identifies States, flocks, hatcheries, and dealers that meet certain disease control standards specified within the Plan's various programs. As a result, customers can buy stock that has tested clean of certain diseases or that has been produced under disease-prevention conditions.

The regulations in 9 CFR parts 145 and 147 (referred to below as "the regulations") contain the requirements for this program. APHIS amends these provisions from time to time to incorporate new scientific information and technologies within the Plan. We are proposing to amend the regulations by:

1. Adding a definition of a suspect flock;

2. Clarifying the recordkeeping requirements for flocks maintained primarily for the production of hatching eggs;

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3. Providing for U.S. Department of Agriculture (USDA) approval of pullorum-typhoid tube agglutination antigens;

4. Allowing a sample of at least 500 birds, in lieu of the entire flock, to be tested by the State Inspector to qualify certain suspect multiplier breeding flocks and succeeding flocks for participation in the Plan's pullorum-typhoid program;

5. Removing provisions that allow two consecutive generations in egg-type chicken breeding flocks, meat-type chicken breeding flocks, and waterfowl, exhibition poultry, and game bird breeding flocks to go without testing for pullorum-typhoid;

6. Providing for the Plan to investigate any multi-State outbreak of a Plan disease;

7. Allowing the use of a federally licensed Salmonella enteritidis bacterin to vaccinate birds in egg-type multiplier breeding flocks;

8. Providing for various sample sizes of live birds for bacteriological examination under the U.S. Sanitation Monitored program for egg-type chickens;

9. Changing the name of the U.S. Sanitation Monitored program for egg-type chickens to U.S. S. enteritidis Monitored;

10. Adding a USDA-approved polymerase chain reaction (PCR)-based DNA procedure as a method of diagnosing mycoplasma;

11. Adding the enzyme-linked immunosorbent assay (ELISA) as a basic screening test for mycoplasma;

12. Adding an alternative laboratory procedure for mycoplasma hemagglutination inhibition testing using microtiter technique;

13. Providing for the most contemporary laboratory methods for use in environmental sample selection, Salmonella isolation, examination of

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Salmonella reactors, and program monitoring procedures for egg-type chicken breeding flocks, meat-type chicken breeding flocks, and waterfowl, exhibition poultry, and game bird breeding flocks; and

14. Amending the procedure for determining the status and effectiveness of sanitation monitored programs.

These proposed amendments are consistent with the recommendations approved by the voting delegates to the National Plan Conference that was held from June 29 to July 2, 1992. Participants in the National Plan Conference represented flockowners, breeders, hatcherymen, and Official State Agencies from all cooperating States. The proposed amendments are discussed in greater detail below.

Definitions

We are proposing to add a definition of a "suspect flock" to § 145.1, which contains definitions for various terms used within the Plan. A flock would be considered to be a suspect flock if any evidence exists that it may be infected with the communicable poultry disease for which the flock qualifies under the Plan. The term would be useful during an investigation of an outbreak of a Plan disease, when even the slightest evidence that a flock may be exposed to a disease would demand investigation in order to ensure that an outbreak does not spread.

Inspections

Section 145.12 requires that the records of all flocks maintained primarily for the production of hatching eggs be examined annually, but does not specify which records are to be maintained or the length of time they are to be kept. We would amend § 145.12(b) to specify that the records shall include VS Form 9-2, "Flock Selecting and Testing Report;" VS Form 9-3,

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"Report of Sales of Hatching Eggs, Chicks, and Poults;" set and hatch records; egg receipts; and egg/chick orders or invoices. We would require the records to be maintained in an organized and accessible manner for 3 years. Keeping the records for 3 years is necessary to ensure the availability of complete records due to the differences between calendar years, hatching years (May to April), and reporting years (July to June). The records will provide the State Inspector with sufficient information to determine whether the flockowner is in compliance with the sanitation, blood testing, and other provisions of the Plan programs for which the flocks have, or are being, qualified.

Blood Testing

Section 145.14 contains requirements for the blood testing of poultry. The official blood tests for pullorum-typhoid set forth in § 145.14(a)(1) are the standard tube agglutination test, the microagglutination test, the ELISA test, and the rapid serum test for all poultry, and the stained antigen, rapid whole-blood test for all poultry except turkeys. The regulations require that all microtest antigens and ELISA reagents be approved by the Department, but does not require Department approval for tube agglutination antigens. The tube agglutination test is used for screening and to retest serum from positive reactions to the rapid whole-blood test in the field. If the reaction to this retest is positive in dilutions of 1:50 or greater for the standard tube agglutination test, additional examination of the bird and flock will be performed. It is, therefore, critical that the tube agglutination antigens be effective, so we are proposing to require that the tube agglutination antigens, like the microtest antigens and ELISA reagents, be submitted to the Department for approval. The antigen producer would be

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required to submit a sample from each lot of antigen upon its manufacture and, because some lots of antigen may last more than a year, once a year thereafter as long as antigen from that lot continues to be made available for use. This would ensure the effectiveness of all antigens and reagents used in official tests for pullorum-typhoid.

Testing of Infected and Succeeding Flocks

Section 145.14(a)(6) contains the testing requirements that must be met for infected and succeeding flocks to qualify for participation in the Plan. Following the discovery of reactors in blood or serum from any flock or the isolation of Salmonella pullorum or Salmonella gallinarum organisms in baby poultry or in fluff samples produced from hatching eggs, the infected flock must have two consecutive negative results to official blood tests to qualify for Plan participation. A succeeding flock must test negative to one official blood test. When flocks of more than 5,000 birds are involved in a disease outbreak, 100 percent testing of flocks is time-consuming and costly. To help save some of that time and cost, we are proposing to allow a sample of least 500 birds from certain suspect flocks of more than 5,000 birds to be tested in lieu of the entire flock. So that each Official State Agency would retain its right to check an entire flock in cases when evidence points to the presence of contamination in the flock, the smaller sample would be allowed at the discretion of the Official State Agency and with the agreement of all involved parties and the Administrator. This would reduce the time and money spent on testing following an outbreak of pullorum-typhoid in commercial flocks.

Terminology and Classification; Flocks and Products

Under the U.S. Pullorum-Typhoid Clean program, two consecutive generations of birds -- a multiplier breeding flock, and a breeding flock

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composed of progeny of a primary breeding flock that is intended solely for the production of multiplier breeding flocks -- may qualify for U.S. Pullorum-Typhoid Clean status without being required to undergo pullorum-typhoid testing. However, pullorum disease and/or fowl typhoid can be introduced, and infection can be established, at any level of primary breeder flocks following lapses in basic biosecurity. When two generations of breeding flocks are allowed to go untested, wide distribution of pullorum disease and/or fowl typhoid may occur before the disease is detected. Therefore, we would amend §§ 145.23(b)(3), 145.33(b)(3), and 145.53(b)(3) to remove the provisions that exempt certain second-generation multiplier breeding flocks of egg-type chickens, meat-type chickens, and waterfowl, exhibition poultry, or game birds from the requirement for pullorum-typhoid testing in order to qualify for U.S. Pullorum-Typhoid Clean status. (During the 1992 Plan conference, representatives of the turkey industry unanimously requested that turkeys be removed from consideration for this particular proposal.)

Investigation of Disease Outbreaks

The U.S. Pullorum-Typhoid Clean program also requires that Official State Agencies promptly investigate all reports of Salmonella pullorum or Salmonella gallinarum isolations from poultry to determine the origin of the infection. That requirement does not, however, provide for a coordinated investigation in the event of a multi-State disease outbreak. In order to facilitate the containment and eradication of such an outbreak, we are proposing to amend §§ 145.23(b)(3)(v), 145.33(b)(3)(v), 145.43(b)(3)(v), and 145.53(b)(3)(v) to require that the Plan conduct an epidemiological trace of any disease outbreak if the infection involves more than one State or if there is possible exposure to poultry in another State from the positive flock.

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Vaccination of Egg-Type Chicken Multiplier Breeding Flocks

We are proposing to amend § 145.23(d) to allow birds in egg-type chicken breeding flocks to be vaccinated with a federally licensed Salmonella enteritidis bacterin. When the flock is 2 to 4 weeks of age, we would require that environmental samples be collected from the flock and tested to ensure that the flock is free of Salmonella enteritidis. When the flock's clean status has been confirmed, the flock could be vaccinated, with the exception of 350 chickens that would be banded and set aside to serve as sentinel birds. Three hundred of the sentinel birds would be required to be tested with pullorum-typhoid antigen when the flock reaches at least at 4 months of age. Because birds vaccinated with a Salmonella enteritidis bacterin would test positive to a pullorum-typhoid antigen, the requirement in § 145.23(d)(3) to screen blood samples from 300 birds every 30 days if Salmonella enteritidis is isolated from an environmental sample collected from the flock would pertain only to non-vaccinated birds. Allowing the chickens to be vaccinated would provide protection for negative egg-type multiplier chicken breeding flocks from chance sources of Salmonella enteritidis infection, such as feed, and environmental sources such as feral animals, birds, and humans. This would also give added assurance that all chicks would remain free of Salmonella enteritidis.

Testing of Egg-Type Chicken Flocks

Section 145.23(d)(2) requires that a 60-bird random sample be taken from a flock for laboratory analysis if a Salmonella enteritidis isolate is found as a result of environmental sampling of a U.S. Sanitation Monitored egg-type chicken breeding flock. The size of the sample is standard, regardless of whether the flock contains 100 birds or 100,000. This can place an unfair

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burden on small hatcheries, which are required to sacrifice as many birds as a large hatchery. Therefore, we are proposing to amend § 145.23(d)(2) to require that a sample of 60 birds be tested from flocks containing 5,000 birds or more, and a sample of 30 birds be tested from flocks with fewer than 5,000 birds. This revision would ease the burden on the owners of smaller flocks while still providing an adequate statistical sample of birds for testing.

Salmonellosis Prevention and Control Programs

As explained in §§ 145.23(d) and 145.33(d), the U.S. Sanitation Monitored program for the breeding-hatching industry is intended to be the basis from which the industry may conduct a program for the prevention and control of Salmonellosis. The classification "U.S. Sanitation Monitored" is currently used for both egg-type chickens and meat-type chickens, even though the requirements for each type of chicken are vastly different. We are proposing to amend § 145.23(d) to change the name of the program as it applies to egg-type chickens to "U.S. S. enteritidis Monitored." This would eliminate the potential for any confusion between the programs.

Testing of Mycoplasma Reactors

Section 147.6 contains the procedure for determining the status of flocks that have reacted to tests for Mycoplasma gallisepticum, Mycoplasma synoviae, and Mycoplasma meleagridis. The procedure calls for the use of an official test, either a macroagglutination test or a microagglutination test, to identify mycoplasma. We are proposing to add a Department-approved PCR-based procedure as a supplemental means of identifying mycoplasma.

Standard Test Procedures for Mycoplasma

In § 147.7, the serum plate agglutination test and the tube agglutination test are identified as basic screening tests for mycoplasma

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antibodies. Which test is selected depends on preference, laboratory facilities, and the availability of antigen. We are proposing to add the ELISA test to § 147.7 as a third basic screening test for mycoplasma antibodies. Many breeders already use ELISA tests to monitor their flocks for a number of diseases. The ELISA test is more accurate than the serum plate and tube agglutination tests, delivering fewer false positive and false negative results.

Alternative Procedure for Microtiter Hemagglutination Inhibition Testing

Section 147.7(e) contains the procedure for the mycoplasma hemagglutination inhibition test using microtiter technique. We are proposing to add an alternative method of conducting the test that would use a single 4-HA dilution of antigen for all serum dilutions, rather than the 8 HA units and 4 HA units of antigen called for by the current method. The alternative method would also have serial dilutions of serum samples made prior to the addition of 4 HA units of antigen to all dilutions. The current procedure adds 8 HA units of antigen to the first dilution (highest antibody concentration) and serially dilutes the antigen-antibody mixture into tubes or wells containing 4 HA units of antigen. The proposed alternative test is the same as the current test, with the exception of the different dilution, and is just as effective. The new test, however, is easier to perform and can be conducted in half the time as the current test. Adding this alternative procedure would give laboratories the option of using either method, since both are scientifically sound.

Bacteriological Examination Procedures

Section 147.11 contains the recommended laboratory procedures for the bacteriological examination of salmonella reactors. We are proposing to add a

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new set of procedures to § 147.11 for use with egg-type chickens, meat-type chickens, and waterfowl, exhibition poultry, and game birds. The existing procedures in § 147.11 would be retained for use with turkeys only. (During the 1992 Plan conference, representatives of the turkey industry unanimously requested that turkeys be removed from consideration for this particular proposal.) The new procedures provide more clarity and detail regarding the collection and handling of organ and intestinal samples from suspects or serological reactors cultured in the Plan's Pullorum-Typhoid and Sanitation Monitored programs. Scientific bacteriological techniques for culturing these samples in both the Pullorum-Typhoid Program and the Sanitation Monitored Program are provided in a pair of flow charts that would be included in the revision. The two charts update, and are intended to clarify, the earlier Plan specifications.

Procedures to Determine Status and Effectiveness of Sanitation Monitored Program

Section 147.14 contains monitoring procedures that may be applied at the discretion of the Official State Agency to determine the status and effectiveness of a sanitation monitored program. One of the procedures involves the culturing of samples from dead-in-shell eggs. We are proposing to amend that procedure to add a recommendation that the eggs be cultured in a preenrichment broth supplemented with ferrous sulfate prior to subculture into a tetrathionate selective enrichment. The ferrous sulfate would be added to egg preenrichments to counteract the salmonella-inhibiting characteristics of egg conalbumin and ovotransferrin. The proposed amendment to § 147.14 would also provide further direction on the culture techniques presented in the illustrations that would accompany the proposed addition to § 147.11 discussed

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above. This proposed amendment to § 147.14 would make the procedure for culturing dead-in-shell eggs consistent with recommendations presented in American Association of Veterinary Laboratory Diagnosticians and American Association of Avian Pathologists laboratory manuals.

Economic Information

The proposed changes contained in this document would keep the provisions of the Plan current with changes in the poultry industry, allow the use of state-of-the-art laboratory and testing procedures, and allow the Plan to better respond to disease emergencies.

Of the proposed amendments, only two are expected to have more than a negligible effect on Plan participants. The proposal to allow, in certain cases, a 500-bird sample to be tested in lieu of the entire flock would result in a cost savings for affected Plan participants because fewer tests would be required to qualify certain multiplier breeding flocks and succeeding flocks for participation in the Plan's pullorum-typhoid program. It is likely, however, that those savings would be offset by the increased testing requirements that would result from the amendment that would increase testing requirements by removing provisions that allow two consecutive generations in egg-type chicken breeding flocks, meat-type chicken breeding flocks, and waterfowl, exhibition poultry, and game bird breeding flocks to go without testing for pullorum-typhoid.

The remaining items, because they are either administrative or procedural in nature, are not expected to have a significant economic impact.

The proposed changes are based on the recommendations of representatives of member States, hatcheries, dealers, flock owners, and breeders who

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participated in the Plan's 31st Biennial Conference. Because participation in the Plan is voluntary, individuals are likely to remain in the program as long as the costs of implementing the program are lower than the added benefits they receive from the program.

* * * * * *

Accordingly, we propose to amend 9 CFR parts 147 and 147 as follows:

PART 145--NATIONAL POULTRY IMPROVEMENT PLAN

1. The authority citation for part 145 would continue to read as follows:

Authority: 7 U.S.C. 429; 7 CFR 2.17, 2.51, and 371.2(d).

2. Section 145.1 would be amended by adding, in alphabetical order, a new definition to read as follows:

§ 145.1 Definitions

* * * * *

Suspect Flock. A flock shall be considered to be a suspect flock if any evidence exists that it may be infected with a communicable poultry disease for which the flock qualifies under the Plan.

* * * * *

§ 145.10 [Amended]

3. In § 145.10(d), the words "§ 145.23(d) and" would be removed.

4. In § 145.10, a new paragraph (l) would be added to read as follows:

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§ 145.10 Terminology and classification; flocks, products, and States.

* * * * *

(1) U.S. S. Enteritidis Monitored. (See § 145.23(d).)

Figure 13

5. In § 145.12(b), two new sentences would be added after the first sentence to read as follows:

§ 145.12 Inspections.

* * * * *

(b) * * * Records shall include VS Form 9-2, "Flock Selecting and Testing Report;" VS Form 9-3, "Report of Sales of Hatching Eggs, Chicks, and Poults;" set and hatch records; egg receipts; and egg/chick orders or invoices. Records shall be maintained in an organized and accessible manner for 3 years. * * *

* * * * *

§ 145.14 [Amended]

6. Section 145.14 would be amended as follows:

a. In paragraph (a)(1), the third sentence would be amended by removing the word "test" and replacing it with the words "and tube agglutination tests", and a new fourth sentence would be added.

b. In paragraph (a)(6), the third sentence of the introductory text would be revised.

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As amended, § 145.14 would read as follows:

§ 145.14 Blood testing.

* * * * *

(a) For Pullorum-Typhoid. (1) * * * Each lot of tube antigen shall be submitted by the antigen producer to the Department for approval upon manufacture and once a year thereafter as long as antigen from that lot continues to be made available for use. * * *

* * * * *

(6) * * * Testing to qualify flocks for Plan participation must include the testing of all birds in infected and succeeding flocks for a 12-month period, and shall be performed or physically supervised by a State Inspector; Provided, That at the discretion of the Official State Agency, a sample of at least 500 birds, rather than all birds in the flock, may be tested by the State Inspector if it is agreed upon by all involved parties and the Administrator. * * *

* * * * *

7. Section 145.21 would be amended by removing the paragraph designations (a) through (c) and rearranging the definitions in alphabetical order.

§ 145.23 [Amended]

8. Section 145.23 would be amended as follows:

a. In paragraph (b)(3), the introductory text would be amended by removing the words ", or a breeding flock composed of progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks,".

b. Paragraph (b)(3)(v) would be revised.

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c. In paragraph (d), the paragraph heading and the first sentence of paragraph (d)(1)(i) would be amended by removing the word "Sanitation" and adding the words "S. enteritidis" in its place.

d. In paragraph (d)(1)(v), the first sentence would be amended by removing the words "more than 4 months" and replacing them with the words "2 to 4 weeks".

e. Paragraphs (d)(1)(vi), (d)(1)(vii), and (d)(1)(viii) would be redesignated as paragraphs (d)(1)(vii), (d)(1)(viii), and (d)(1)(ix), respectively, and a new paragraph (d)(1)(vi) would be added.

f. In paragraph (d)(1)(vii), the first sentence would be amended by removing the word "birds" and replacing it with the words "non-vaccinated birds as described in paragraph (d)(1)(vi) of this section".

g. In paragraph (d)(2), the second and third sentences would be revised.

h. Paragraph (d)(3) would be amended by adding the word "non-vaccinated" immediately after the word "A".

i. In paragraph (e)(1)(ii), the paragraph designations (a) and (b) would be corrected to read (A) and (B).

As amended, § 145.23 would read as follows:

§ 145.23 Terminology and classification: flocks and products.

* * * * *

(b) * * *

(3) * * *

(v) All reports of any disease outbreak involving a disease covered under the Plan are promptly followed by an investigation by the Official State Agency to determine the origin of the infection; Provided, That if the origin

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of the infection involves another State, or if there is possible exposure to poultry in another State from the positive flock, then the National Poultry Improvement Plan will promptly conduct an epidemiological trace with the cooperation of the State officials involved;

* * * * *

(d) * * *

(1) * * *

(vi) A federally licensed Salmonella enteritidis bacterin may be used in multiplier breeding flocks except for a sample of 350 birds, which will be banded for identification, which are negative for Salmonella enteritidis upon bacteriological examination as described in paragraph (d)(1)(v) of this section. Following negative serological and bacteriological examinations as described in paragraph (d)(1)(vii) of this section, the banded, non-vaccinated birds shall be vaccinated.

* * * * *

(2) * * * Isolation of SE from an environmental or other specimen, as described in paragraph (d)(1)(v) of this section, will require bacteriological examination for SE, as described in § 147.11(a) of this chapter, of a random sample of 60 live birds from a flock of 5,000 birds or more, or 30 live birds from a flock with fewer than 5,000 birds, in an authorized laboratory. If only one specimen is found positive for SE, the participant may request bacteriological examination of another sample, equal to the first sample, from the flock. * * *

* * * * *

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9. Section 145.31 would be amended by removing the paragraph designations (a) through (c) and rearranging the definitions in alphabetical order.

§ 145.33 [Amended]

10. Section 145.33 would be amended as follows:

a. In paragraph (b)(3), the introductory text would be amended by removing the words ", or a breeding flock composed of progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks,".

b. Paragraph (b)(3)(v) would be revised.

c. In paragraph (d)(1)(viii), footnote 4a and its corresponding footnote number in the text would be redesignated as footnote 4.

d. In paragraph (e)(1)(ii), the paragraph designations (a) and (b) would be corrected to read (A) and (B).

As amended, § 145.33 would read as follows:

§ 145.33 Terminology and classification: flocks and products.

* * * * *

(b) * * *

(3) * * *

(v) All reports of any disease outbreak involving a disease covered under the Plan are promptly followed by an investigation by the Official State Agency to determine the origin of the infection; Provided, That if the origin of the infection involves another State, or if there is possible exposure to poultry in another State from the positive flock, then the National Poultry Improvement Plan will promptly conduct an epidemiological trace with the cooperation of the State officials involved;

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* * * * *

11. In § 145.41, the paragraph designation "(a)" would be removed.

12. In § 145.43(b), paragraph (3)(v) would be revised to read as follows:

§ 145.43 Terminology and classification; flocks and products.

* * * * *

(b) * * *

(3) * * *

(v) All reports of any disease outbreak involving a disease covered under the Plan are promptly followed by an investigation by the Official State Agency to determine the origin of the infection; Provided, That if the origin of the infection involves another State, or if there is possible exposure to poultry in another State from the positive flock, then the National Poultry Improvement Plan will promptly conduct an epidemiological trace with the cooperation of the State officials involved;

* * * * *

13. In § 145.43(f)(3)(ii), the words "Industry/Education Salmonella Reduction" would be removed, the words "Industry (APPI) Salmonella Education/Reduction" added in their place, and the footnote designation "4" would be removed.

14. Section 145.51 would be amended by removing the paragraph designations (a) through (c) and rearranging the definitions in alphabetical order.

§ 145.53 [Amended]

15. Section 145.53 would be amended as follows:

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a. In paragraph (a), footnote 1 and its corresponding footnote number in the text would be redesignated as footnote 7.

b. In paragraph (b)(3), the introductory text would be amended by removing the words ", or a breeding flock composed of progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks,".

c. Paragraph (b)(3)(v) would be revised.

As amended, § 145.53 would read as follows:

§ 145.53 Terminology and classification: flocks and products.

* * * * *

(b) * * *

(3) * * *

(v) All reports of any disease outbreak involving a disease covered under the Plan are promptly followed by an investigation by the Official State Agency to determine the origin of the infection; Provided, That if the origin of the infection involves another State, or if there is possible exposure to poultry in another State from the positive flock, then the National Poultry Improvement Plan will promptly conduct an epidemiological trace with the cooperation of the State officials involved;

* * * * *

PART 147--AUXILIARY PROVISIONS ON NATIONAL POULTRY IMPROVEMENT PLAN

16. The authority citation for part 147 would continue to read as follows:

Authority: 7 U.S.C. 429; 7 CFR 2.17, 2.51, and 371.2(d).

17. In § 147.5(b), footnote 1 and its corresponding footnote number in the text would be redesignated as footnote 4, and the footnote would be

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amended by removing the words "Federal Building," and adding the words "Presidential Building, 6525 Belcrest Road," in their place.

§ 147.6 [Amended]

18. In the introductory text of § 147.6(b), the words "or identified as infected by a polymerase chain reaction (PCR)-based procedure approved by the Department" would be added after the word "bacteriologically" in the second sentence.

19. In § 147.6(b)(5), the words "or a PCR-based procedure conducted on these specimens" would be added after the word "individually" in the second sentence.

20. In § 147.6(b), in paragraphs (12) through (15), the words ", PCR-based procedures," would be added after the words "in vivo bio-assay" each time they appear.

§ 147.7 [Amended]

21. Section 147.7 would be amended as follows:

a. In the section heading, footnote 1 and its corresponding footnote number in the section heading would be redesignated as footnote 5.

b. In the introductory text, the first sentence would be amended by removing the words "plate of the tube agglutination test" and adding the words "plate agglutination test, the tube agglutination test, and the enzyme-linked immunosorbent assay (ELISA)" in their place.

c. In the introductory text, the third sentence would be amended by removing the word "Both" and adding the words "These three" in their place.

d. In the introductory text, the seventh sentence would be amended by removing the words "the plate and/or" and adding the words "the ELISA, plate, and/or" in their place.

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e. In paragraph (a), the paragraph heading and the first sentence of the introductory text of paragraph (a)(1) would be amended by removing the words "plate test" and adding the words "plate agglutination test" in their place.

f. Paragraph (e) would be amended by revising the paragraph heading; redesignating the introductory text as paragraph (1) and adding a new paragraph heading; redesignating paragraphs (1) through (1)(iv), (2) through (2)(viii), and (3) through (3)(xi) as paragraphs (i) through (i)(D), (ii) through (ii)(H), and (iii) through (iii)(K), respectively; and by adding a new paragraph (2).

As amended, § 147.7(e) would read as follows:

§ 147.7 Standard test procedures for mycoplasma.[5]

* * * * *

(e) Procedures for mycoplasma hemagglutination inhibition tests using microtiter technique.

(1) Procedure No. 1. * * *

* * * * *

(2) Procedure No. 2. Purpose: To test for antibodies to avian mycoplasma by hemagglutination inhibition (HI). The test uses the constant antigen, titered-sera method for measuring antibodies to M. gallisepticum, M. synoviae, or M. meleagridis.

(i) Materials needed. (A) M. gallisepticum, M. synoviae, and/or M. meleagridis HI antigens.

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[5] For additional information on mycoplasma test procedures, refer to the following references: Proc. 77th Annual Meeting, U.S. Animal Health Association, 1973; Isolation and Identification of Avian Pathogens, 2nd Edition; Methods for Examining Poultry Biologics and for Identifying and Quantifying Avian Pathogens, 1971.

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(B) Positive and negative control sera.

(C) Phosphate buffered saline (PBS).

(D) Microtiter plates, 96-well, U-bottom.

(E) 12-channel pipettor (Titerek).

(F) 50 μl pipettor (Pipetman P200).

(G) Pipette tips.

(H) 0.5 percent homologous red blood cells (RBC's) in PBS (use RBC's from the same species being tested).

(I) Plate-sealing tape.

(J) Mirrored plate reader.

(ii) Microtiter hemagglutination (HA) antigen titration. (A) Perform standard hemagglutination test (HA) on mycoplasma antigen to determine titer of antigen.

(1) Dispense 50 μl of PBS into each well of 3 rows of a 96-well microtiter plate.

(2) Dispense 50 μl of stock antigen into the wells of 2 rows.

(3) Perform serial two-fold dilutions (50 μl) using a 12-channel pipettor. The dilution series will be from 1:2 to 1:4096.

(4) Add 50 μl of 0.5 percent homologous RBC's to each well of all 3 rows. The row with no antigen serves as an RBC control.

(B) Incubate at room temperature (approximately 30 minutes) until the control RBC's give tight buttons. The HA titer is read as the last well to give a complete lawn (hemagglutination). The desired endpoint is 4 HA units. The well containing the 1:4 dilution should give a complete HA while the 1:8 dilution should show less than complete HA.

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(C) Dilute stock antigen to 4 HA units for the HI test. The dilution required to give 4 HA units is calculated by dividing the stock antigen HA titer by 8. (Example: 1:320 HA units ÷ 8 = 40, dilute stock antigen 1:40.)

(iii) Hemagglutination inhibition assay. (A) Label one column (A to H) of a 96-well, U-bottom microtiter plate for each sample, each positive and negative control sera, antigen backtitration, and RBC control.

(B) Add 40 μl of PBS to the top row of wells (row A) of the plate.

(C) Add 25 μl of PBS to all remaining wells of the plate.

(D) Add 10 μl of each test sera to well A of each column (making a 1:5 sera dilution).

(E) Serially dilute 25 μl from well A through H using a 12-channel pipettor. Discard the final 25 μl. Row A = 1:5...row H = 1:640.

(F) With an Oxford doser, add 25 μl of 4 HA unit antigen to wells B through H. Well A serves as sera control.

(G) Prepare an antigen backtitration by adding 25 μl of PBS to each well of one column. Add 25 μl of diluted antigen to well A and serially dilute 25 μl from wells A to D. This prepares 1:2, 1:4, 1:8, and 1:16 dilutions. (It is recommended that the antigen control backtitration be performed before the diluted antigen is used in the assay. Dilution problems could be detected and corrected before the inappropriately diluted antigen is used in the assay.)

(H) Leave a column of wells blank for an RBC control.

(I) Agitate gently and incubate for 30 minutes at room temperature.

(J) Add 50 μl of 0.5 percent RBC's to all wells. Note: Do not agitate after RBC's have been added (agitation may result in false positive reactions by causing the RBC's to fall, resulting in "false" buttons).

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(K) Cover the plate with sealing tape. Incubate at room temperature for approximately 30 minutes until control RBC's give a tight button.

(L) Read the reaction on a mirrored plate reader.

(iv) Results. (A) The titer is reported as the reciprocal of the last dilution to give a tight button of RBC's. The final dilution scheme includes the antigen in the dilution calculation and is as follows: B=1:20, C=1:40, D=1:80, E=1:160, F=1:320, G=1:640, H=1:1,280.

(B) For the assay to be valid:

(1) The positive control sera must give a result within one dilution of the previously determined titer.

(2) The negative control sera must be negative.

(3) The backtitration of the antigen must be 1:4 or 1:8.

(4) The RBC control must give tight, non-hemolyzed buttons.

(5) Sera controls (well A of each test sera) must not have non-specific agglutination or hemolysis. If negative, report as "negative with non-specific agglutination or non-specific hemolysis" or "unable to evaluate due to non-specific agglutination or hemolysis" or treat the serum to remove the non-specific agglutination and repeat the test. (See paragraph (f)(5) of this section.)

(v) Treatment to remove non-specific agglutination. (A) Purpose. Treatment of serum to remove non-specific agglutination that is interfering with HI assays.

(B) Specimen. Serum.

(C) Materials. Homologous RBC's (chicken or turkey), 50 percent solution PBS, centrifuge, incubator, 4C (refrigerator).

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(D) Procedure. (1) Prepare a 1:5 dilution of test serum by adding 50 µl of serum to 200 µl of PBS.

(2) Prepare a 50 percent solution of RBC's by adding equal volumes of packed RBC's to PBS. Mix well.

(3) Add 25 µl of 50 percent RBC solution to the serum dilutions.

(4) Vortex gently to mix.

(5) Incubate at 4°C for 1 hour.

(6) Centrifuge to pellet the RBC's.

(7) Use the supernatant to perform the HI assay. Modify the dilution scheme in the assay to consider the initial 1:5 dilution prepared in the treatment. For the 1:5 dilution scheme, do not add PBS to row A. Add 50 µl of the 1:5 treated supernatant to row A. Serially dilute 25 µl from rows A through H. This prepares a serum dilution of 1:10 through 1:640 in rows B through H.

22. In part 147, "Subpart B--Bacteriological Examination Procedure," a new § 147.10 would be added to read as follows:

SUBPART B--BACTERIOLOGICAL EXAMINATION PROCEDURE

§ 147.10 Laboratory procedure recommended for the bacteriological examination of egg-type breeding flocks with salmonella enteritidis positive environments.

Birds selected for bacteriological examination from egg-type breeding flocks positive for Salmonella enteritidis after environmental monitoring should be examined as described in § 147.11(a) of this subpart, with the following exceptions and modifications allowed due to the high number of birds required for examination:

(a) Direct culture, § 147.11(a)(1), except when visibly pathological tissues are present, may be omitted; and

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(b) Enrichment culture of organ (non-intestinal) tissues using a non-selective broth, § 147.11(a)(2), may be omitted.

§ 147.11 [Amended]

23. Section 147.11 would be amended as follows:

a. Footnotes 1 through 4 and their corresponding footnote numbers in the text would be redesignated as footnotes 7 through 10.

b. Paragraphs (a) through (j) would be redesignated as follows:

Current Paragraph	Proposed Paragraph
147.11(a)	147.11(b)(1)
147.11(b)	147.11(b)(2)
147.11(b)(1)	147.11(b)(2)(i)
147.11(b)(2)	147.11(b)(2)(ii)
147.11(b)(3)	147.11(b)(2)(iii)
147.11(b)(4)	147.11(b)(2)(iv)
147.11(b)(5)	147.11(b)(2)(v)
147.11(c)	147.11(c)(3)
147.11(c)(1)	147.11(c)(3)(i)
147.11(c)(2)	147.11(c)(3)(ii)
147.11(c)(3)	147.11(c)(3)(iii)
147.11(c)(4)	147.11(c)(3)(iv)
147.11(c)(5)	147.11(c)(3)(v)
147.11(c)(6)	147.11(c)(3)(vi)
147.11(d)	147.11(b)(4)
147.11(e)	147.11(b)(5)
147.11(f)	147.11(b)(6)
147.11(g)	147.11(b)(7)
147.11(h)	147.11(b)(8)
147.11(i)	147.11(b)(9)
147.11(j)	147.11(b)(10)

c. A new paragraph (a) and a paragraph heading for paragraph (b) would be added.

As amended, § 147.11 would read as follows:

§ 147.11 Laboratory procedure recommended for the bacteriological examination of salmonella reactors.

(a) For egg- and meat-type chickens, waterfowl, exhibition poultry, and game birds. All reactors to the Pullorum-Typhoid tests, up to at least four

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birds, should be cultured in accordance with both (a)(1) direct and (a)(2) selective enrichment procedures described in this section. Careful aseptic technique should be used when collecting all tissue samples.

(1) Direct culture (refer to illustration 1). Grossly normal or diseased liver, heart, pericardial sac, spleen, lung, kidney, peritoneum, gallbladder, oviduct, misshapen ova or testes, inflamed or unabsorbed yolk sac, and other visibly pathological tissues where purulent, necrotic, or proliferative lesions are seen (including cysts, abscesses, hypopyon, and inflamed serosal surfaces), should be sampled for direct culture using either flamed wire loops or sterile swabs. Since some strains may not dependably survive and grow in certain selective media, inoculate non-selective plates in addition to two non-selective plating media. Refer to illustration 1 for recommended bacteriological recovery and identification procedures.[6] Proceed immediately with collection of organs and tissues for selective enrichment culture.

(2) Selective enrichment culture (refer to illustration 2). Collect and culture organ samples separately from intestinal samples, with intestinal tissues collected last to prevent cross-contamination. Samples from the following organs or sites should be collected for culture in selective enrichment broth. A non-selective broth culture (illustration 1) of pooled organs and sites should also be included as described in paragraph (3) of this section.

(i) Heart (apex, pericardial sac, and contents if present.);

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[6] Biochemical identification charts may be obtained from "A Laboratory Manual for the Isolation and Identification of Avian Pathogens," chapter 1, Salmonellosis. Third edition, 1989, American Association of Avian Pathologists, Inc., Kendall/Hunt Publishing Co., Dubuque, IA 52004-0539.

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(ii) Liver (portions exhibiting lesions or, in grossly normal organs, the drained gallbladder and adjacent liver tissues.);

(iii) Ovary-Testes (entire inactive ovary or testes, but if ovary is active, use own judgment and include any atypical ova.);

(iv) Oviduct (if active, include any debris and dehydrated ova.);

(v) Kidneys and spleen; and

(vi) Other visible pathological sites where purulent, necrotic, or proliferative lesions are seen.

(3) From each reactor, aseptically collect 10 to 15 g, or the nearest lesser amount available, from each organ or site listed in paragraph (a)(2) of this section and mince, grind, and blend them completely in 10 times their volume of beef extract broth or a comparable non-selective broth. Organs or sites listed in paragraph (a)(2) of this section may be pooled from the same individual bird. Suspensions should be transferred in 10-ml aliquots to 100 ml of both tetrathionate brilliant green (TBG) (Hajna or Mueller-Kauffmann) broth and a separate non-selective broth and incubated at 37°C for 24 hours. Refer to illustration 2 for recommended bacteriological recovery and identification procedures, <u>including delayed secondary enrichment</u> and combinations of plating media that significantly suppress the overgrowth of contaminants, such as brilliant green Novobiocin (BGN) and Xylose-Lysine-Tergitol 4 (XLT4).

(4) From each reactor, make a composite sample of the following parts of grossly normal or diseased tissues from the digestive tract: Crop wall, duodenum (including portions of the pancreas), jejunum (including remnant of yolk-sac attachment), both ceca, cecal tonsils, and rectum-cloaca. Aseptically collect 10-15 g or the nearest lesser amount available from each

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specified digestive or intestinal tissue, and mince, grind, and blend them completely in 10 times their volume of TBG broth. The digestive/intestinal tissues may be pooled from the same individual bird. Do not pool tissues from different birds. Transfer 10 ml of the described digestive TBG suspensions into 100 ml of TBG broth, and incubate at 41.5°C for 24 hours. Cultures may be incubated at 37°C if 41.5°C incubators are not available. The higher incubation temperatures for TBG broth reduce populations of competitive contaminants common in gut tissue. Refer to illustration 2 for recommended bacteriological recovery and identification procedures, <u>including delayed secondary enrichment</u> and combinations of plating media that significantly suppress the overgrowth of contaminants, such as BGN and XLT4.

(5) The Analytical Profile Index for Enterobacteriaceae (API) system may be utilized to aid cultural identifications.

(6) All isolates culturally identified as salmonellae should be serogrouped or serotyped.

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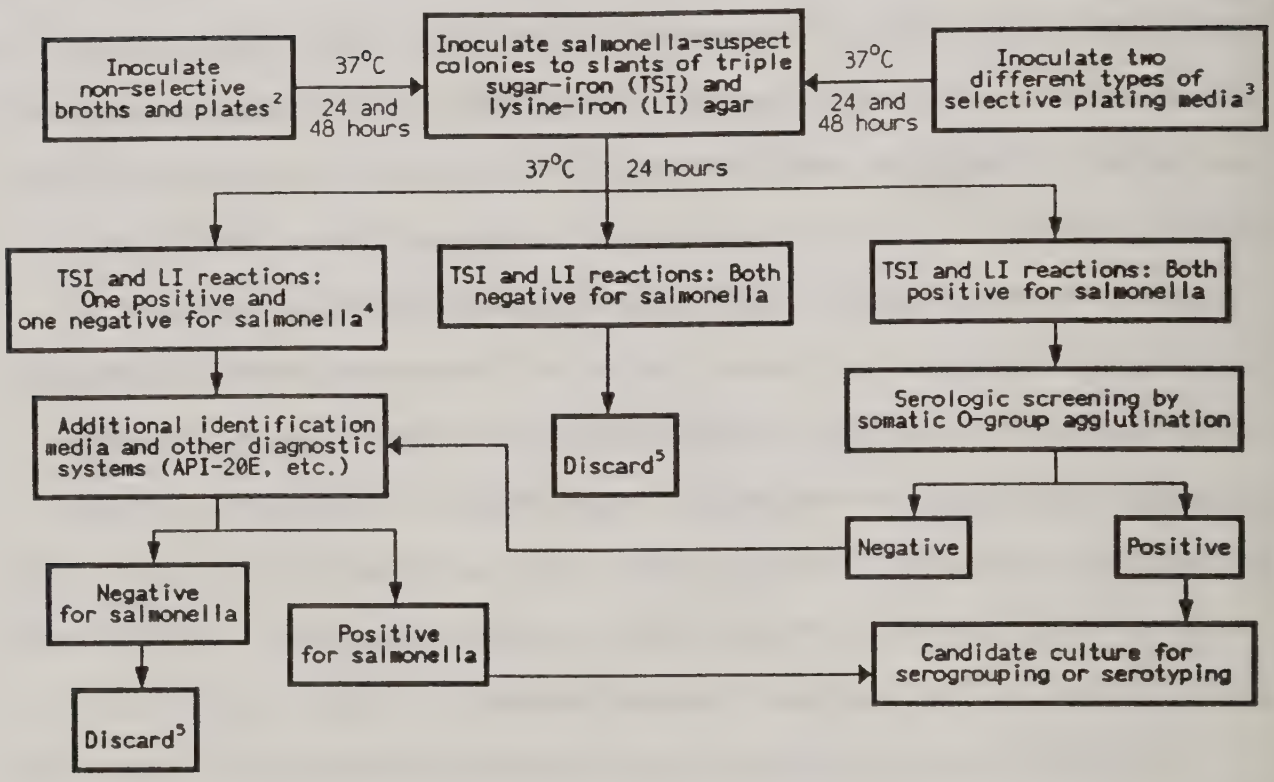
ILLUSTRATION 1: Organ (non-intestinal) tissues.[1]
Pullorum-Typhoid reactors.



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[1] All pullorum-typhoid reactors should also be evaluated with selective enrichment (refer to illustration 2).

[2] Inoculate both beef extract or infusion plates AND broths. Comparable non-selective media may also be used.

[3] Inoculate brilliant green (BG) or BG-Novobiocin (BGN) AND another selective media such as xylose-lysine-desoxycholate (XLD) or XLD-Novobiocin (XLDN).

[4] If combined results with TSI and LI agars, additional identification media, and O-group screening procedures are inconclusive, restreak original colony onto selective plating media to check for purity.

[5] Reevaluate if epidemiologic, necropsy, or other information strongly suggests the presence of an unusual strain of Salmonella.

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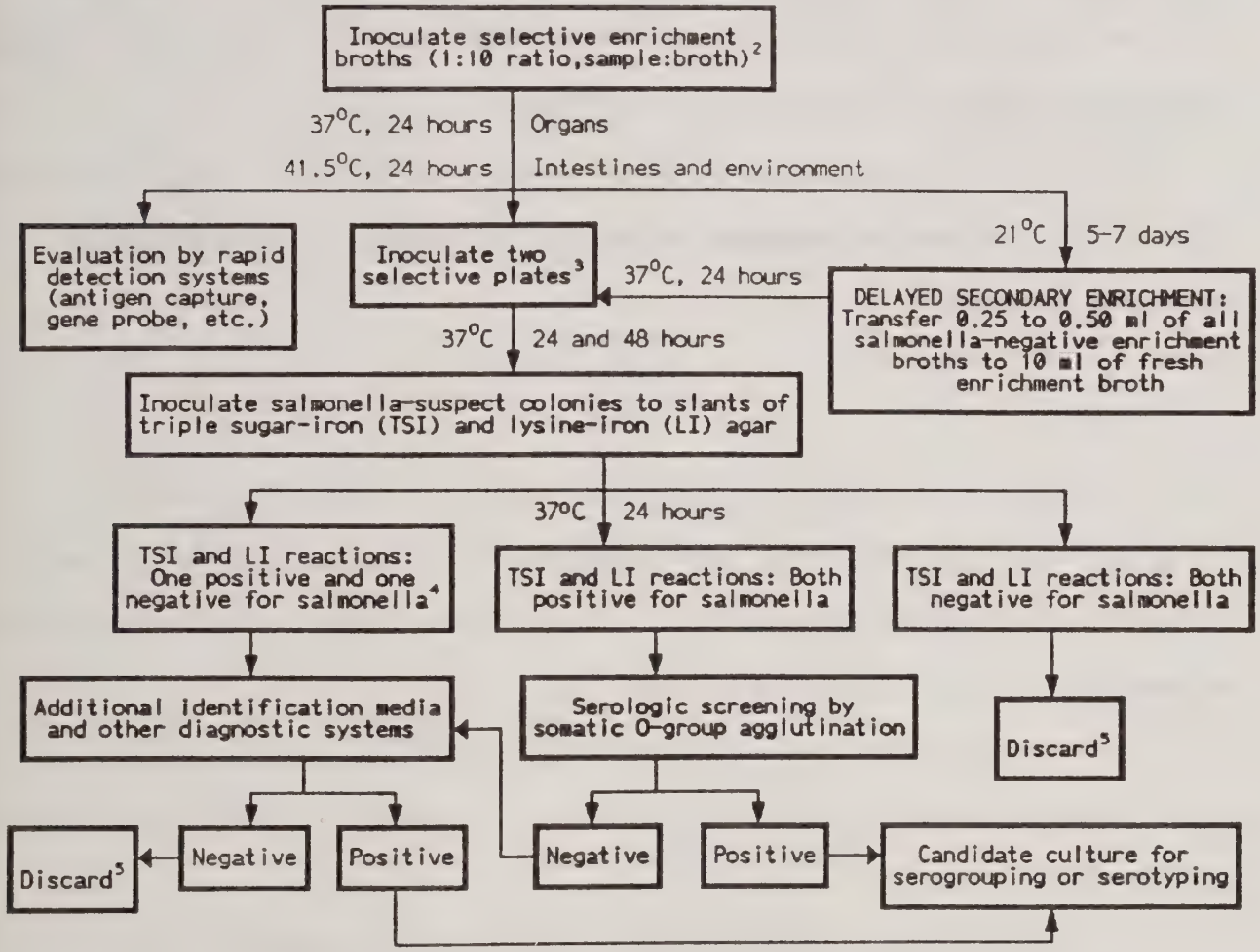
ILLUSTRATION 2: Environmental, organ, and intestinal samples.[1]
Environmental monitoring programs and pullorum-typhoid reactors.



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[1] Organ issues from all reactor birds should also be evaluated without selective enrichment (refer to illustration 1).

[2] Hajna TT or Mueller-Kauffmann tetrathionate enrichment broth is preferred over selenites.

[3] For enrichment broths of organ samples, inoculate xylose-lysine-desoxycholate (XLD) or XLD-Novobiocin (XLDN) AND brilliant green (BG) or BG-Novobiocin (BGN) media. One of the media shall be either XLDN or BGN. For enrichment broths of intestinal or environmental samples, inoculate xylose-lysine-tergitol 4 (XLT4) or XLDN and BGN or BG media.

[4] If combined results with TSI and LI agars, additional identification media, and O-group screening procedures are inconclusive, restreak original colony onto selective plating agar to check for purity.

[5] Reevaluate if epidemiologic, necropsy, or other information strongly suggests the presence of an unusual strain of Salmonella.

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(b) For turkeys. * * *

* * * * *

24. In § 147.12(c)(2), footnote 1 and its corresponding footnote number in the text would be redesignated as footnote 11.

25. In § 147.14, paragraph (a)(2) would be revised to read as follows:

§ 147.14 Procedures to determine status and effectiveness of sanitation monitored programs.[12]

* * * * *

(a) * * *

(2) Culture a sample of dead-in-shell eggs periodically from each breeding flock for coliforms. Such eggs should also be cultured for the dependable recovery of salmonellae. Culturing for the dependable recovery of salmonellae should include the use of:

(A) Preenrichment broths supplemented with 35 mg ferrous sulfate per 1,000 ml preenrichment to block iron-binding, salmonella-inhibiting effects of egg conalbumin; and

(B) Tetrathionate selective enrichment broths, competitor-controlling plating media (XLT4, BGN, etc.), and delayed secondary enrichment procedures detailed in illustration 2 of § 147.11(a) of this part.

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[12] Laboratory procedures for monitoring operations proposed here are described in the following publications: (a) "Isolation and Identification of Avian Pathogens," American Association of Avian Pathologists, Texas A&M University, College Station, TX 77843, 1975, and (b) "Culture Methods for the Detection of Animal Salmonellosis and Arizonosis," Iowa State University Press, Ames, IA 50010, 1976.

26. In §§ 147.15 and 147.16, footnotes 4 through 12 and their corresponding footnote numbers in the text would be redesignated as footnotes 13 through 21.

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27. Section 147.41 would be amended by removing the paragraph designations (a) through (j) and rearranging the definitions in alphabetical order.

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amended the regulations concerning the importation into the United States of meat of ruminants and swine, and certain other animal products, from Northern Ireland and the Republic of Ireland. The imposition of additional import restrictions was a necessary response to new conditions that made possible the commingling of disease-contaminated meat or meat products with disease-free meat or meat products in these countries. In Northern Ireland, conditions have changed with respect to swine vesicular disease-contamination of meat or meat products only. This action was necessary to protect against the introduction into the United States of swine vesicular disease, rinderpest, and foot-and-mouth disease.

EFFECTIVE DATE: January 4, 1993.

FOR FURTHER INFORMATION CONTACT: Dr. Harvey A. Kryder, Chief Staff Veterinarian, Import-Export Products Staff, VS, APHIS, USDA, room 756–A, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, 301–436–7885.

SUPPLEMENTARY INFORMATION:

Background

In an interim rule effective and published in the Federal Register on August 18, 1992 (57 FR 37081–37083, Docket No. 92–031–1), we amended the animal and animal product importation regulations in 9 CFR part 94 by restricting the importation into the United States of meat of ruminants and swine, and certain other animal products, from Northern Ireland and the Republic of Ireland. This action was necessary to prevent the introduction of rinderpest, foot-and-mouth disease (FMD), and swine vesicular disease (SVD) into the United States.

Comments on the interim rule were required to be received on or before October 19, 1992. We received one comment, from a representative of the Government of Northern Ireland.

The commenter requested that we remove the special restrictions on animal products from Northern Ireland because animal products in Northern Ireland pose no disease risk to the United States. He cited the effectiveness of European Community epizootic disease control measures, and noted that most animals imported into Northern Ireland originate in the Republic of Ireland. The commenter stated that if we would not change the regulations for those reasons alone, the Government of Northern Ireland was prepared to guarantee, based on a centralized animal health computer system, that animal products exported from Northern Ireland to the United States meet all U.S. "non-commingle ment" requirements.

We are making no changes as a result of this comment. Meat and meat products of ruminants and swine from all countries listed in §§ 94.11 or 94.13 are subject to special import restrictions because of disease risk. The regulations are necessary to prevent meat and meat products from those countries from introducing rinderpest, FMD, or SVD into the United States. We can make no exception for Northern Ireland.

The facts presented in the interim rule still provide the basis for this rule.

This action also affirms the information contained in the interim rule concerning Executive Orders 12291, 12372, and 12778, the Regulatory Flexibility Act, and the Paperwork Reduction Act.

Further, for this action, the Office of Management and Budget has waived the review process required by Executive Order 12291.

List of Subjects in 9 CFR Part 94

Animal diseases, Imports, Livestock, Meat and meat products, Milk, Poultry and poultry products, Reporting and recordkeeping requirements.

Accordingly, the regulations in 9 CFR part 94 are amended as follows:

PART 94—RINDERPEST, FOOT-AND-MOUTH DISEASE, FOWL PEST (FLOW PLAGUE), VELOGENIC VISCEROTROPIC NEWCASTLE DISEASE, AFRICAN SWINE FEVER, HOG CHOLERA, AND BOVINE SPONGIFORM ENCEPHALOPATHY: PROHIBITED AND RESTRICTED IMPORTATIONS

Accordingly, we are adopting as a final rule, without change, the interim rule amending 9 CFR 94.11 and 94.13 that was published at 57 FR 37081–37083 on August 18, 1992.

Authority: 7 U.S.C. 147a, 150ee, 161, 162, 450; 19 U.S.C. 1306; 21 U.S.C. 111, 114a, 134a, 134b, 134c, and 134f; 31 U.S.C. 9701; 42 U.S.C. 4331, 4332; 7 CFR 2.17, 2.51, and 371.2(d).

Done in Washington, DC, this 1st day of December 1992.

Lonnie J. King,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 92–29463 Filed 12–3–92; 8:45 am]

BILLING CODE 3410–34–M

9 CFR Parts 145 and 147

[Docket No. 91–026–2]

National Poultry Improvement Plan and Auxiliary Provisions

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Final rule.

SUMMARY: We are amending the National Poultry Improvement Plan (referred to below as the Plan) and its auxiliary provisions to improve its programs by isolating and testing birds from sources that do not participate in the Plan before their introduction into a Plan-participating flock, and by providing new procedures for examining and testing participating flocks. This action is necessary to increase the effectiveness of the Plan in preventing and controlling certain poultry diseases. The intended effect of these amendments is to help improve poultry breeding stock and hatchery products.

EFFECTIVE DATE: January 4, 1993.

FOR FURTHER INFORMATION CONTACT: Mr. Andrew Rhorer, Senior Coordinator, Poultry Improvement Staff, National Poultry Improvement Plan, VS, APHIS, USDA, room 205, Presidential Building, 6525 Belcrest Road, Hyattsville, MD 20782, (301) 436–7768.

SUPPLEMENTARY INFORMATION:

Background

The National Poultry Improvement Plan (referred to below as the Plan) is a cooperative Federal-State-industry mechanism for controlling certain poultry diseases. The Plan consists of a variety of programs to prevent and control egg-transmitted, hatchery-disseminated poultry diseases. Participation in all the Plan programs is voluntary. However, flocks, hatcheries, and dealers must qualify as "U.S. Pullorum-Typhoid Clean" before participating in any other Plan program. Also, regulations at 9 CFR 82.33 require that no hatching eggs or newly-hatched chicks from egg-type chicken breeding flocks may be moved interstate unless they are classified "U.S. Sanitation Monitored" under the Plan, or meet the requirements of a State classification plan determined by the Administrator to be equivalent to the Plan.

The Plan identifies States, flocks, hatcheries, and dealers that meet certain disease control standards specified within the Plan's various programs. As a result, customers can buy stock that has tested clean of certain diseases or that has been produced under disease-prevention conditions.

The regulations in 9 CFR parts 145 and 147 (referred to below as "the

regulations") contain the requirements for this program. The Animal and Plant Health Inspection Service (APHIS) amends these provisions from time to time to incorporate new scientific information and technologies within the Plan.

We published in the Federal Register on June 30, 1992 (57 29044–29050, Docket No. 91–026–1), a proposal to amend the regulations by making the following changes:

1. Add a definition of poultry dealer;

2. Provide for the segregation and testing of birds from sources that do not participate in the Plan before introduction into a Plan-participating flock;

3. Improve the "U.S. Sanitation Monitored" program for egg-type chicken breeding flocks by requiring 30-day culturing of the environment rather than dead-germ eggs;

4. Improve the "U.S. Sanitation Monitored" program for meat-type chicken breeding flocks by providing for environmental culturing and control efforts for flocks with certain *Salmonella* serotypes to reduce vertical transmission;

5. Provide for egg yolk monitoring test for *Mycoplasma gallisepticum* (MG) and reduced sample size for gama birds to keep MG classification;

6. Improve sampling procedures for environmental sample collection for *Salmonella* testing of the breeding flock environment;

7. Provide procedures for bacteriologic examination of environmental samples for *Salmonella*; and

8. Provide procedures for drag-swab sampling for *Salmonella* testing of the breeding flock environment.

Our proposed amendments were consistent with the recommendations approved by the voting delegates to the June 1990 meeting of the Biennial Plan Conference. Participants at these meetings represented flockowners, breeders, hatcherymen, and Official State Agencies from all cooperating States.

Comments

Our proposed rule invited the submission of comments, which were required to be received on or before July 30, 1992. We received one comment prior to the closing date. The comment, from a State Department of Agriculture, requested that we reconsider deleting requirements for dead-germ egg culturing.

U.S. Sanitation Monitored—Egg Type Chicken Breeding Flocks

We proposed to amend § 145.23 to change the "U.S. Sanitation Monitored" program for egg-type chicken breeders by requiring collection of environmental samples every 30 days after the first environmental sample has been taken and by deleting the requirements for dead-germ egg culturing. Also, we proposed to require bacteriological examination of a random sample of 60 live birds if *Salmonella enteritidis* ser *enteritidis* (SE) is isolated from environmental or other specified samples. To relieve any unnecessary burden upon a producer, we proposed to provide the participant the option of requesting a new examination of an additional 60-bird sample if the bacteriological examination reveals only one positive specimen. If the new examination does not recover any SE, then the flock can be eligible for the "U.S. Sanitation Monitored" classification.

The commenter suggested that—(1) Dead-germ egg culturing be required on at least a monthly basis as long as environmental samples are SE culture positive, regardless of negative bird culture results; (2) "U.S. Sanitation Monitored" status be withheld if either the breeder flock or its progeny (dead-germ eggs or newborn chicks) are SE culture positive; and (3) dead-germ eggs in hatcheries be cultured to monitor all source flocks regardless of their respective environmental status. The commenter believes these actions are necessary because "Investigators have speculated that use of vaccine and, or antibiotics in these flocks may have precluded isolation of SE."

We agree with the commenter that positive environmental samples may call for additional samples from dead-germ eggs, meconium and other hatching debris, and newly-hatched chicks to ensure that a breeding flock is not contaminated with SE. However, we have determined that environmental testing of samples is a quicker and more reliable means of detecting SE-contaminated egg-type chicken breeding flocks than the less-sensitive dead-germ egg culturing. Although our experiences indicate that the present program as amended by this rule is a sufficient means of detecting SE, we will recommend that the General Conference Committee take action at their next scheduled meeting before the 1994 Biennial Conference if future experience shows a further change to be warranted. At this time, we are not making any changes to this rule as a result of this comment.

Other Changes From the Proposed Rule

We have made several changes to the proposed rule for clarification. These changes are discussed below.

Definition of Dealer

We proposed to amend § 145.1 by adding the following definition: "Dealer. An individual or business that deals in commerce in hatching eggs and newly-hatched poultry obtained from breeding flocks and hatcheries. This does not include an individual or business that deals in commerce in buying and selling poultry for slaughter only."

We proposed this change to eliminate confusion and misunderstandings among Plan participants. However, our proposed definition does not take into account the stage of development of poultry after newly-hatched poultry. It was our intent to include started poultry; therefore, we are adding the term "started poultry" to the definition of "dealer."

Use of Selenite-cystine

We proposed to amend § 147.11 by adding specific steps for conducting bacteriologic examination of environmental and other contaminated specimens. These provisions include the use of Tetrathionate Hajna selective broth, TT Mueller-Kauffmann, or selenite-cystine for culturing a representative sample at a temperature of 41–42 °C for 24 hours. The National Veterinary Services Laboratories (NVSL) have continued to work with these substances. The NVSL's recent experience indicates that the use of selenite-cystine for culturing samples preserved in double strength skim milk results in false negatives due to a precipitation reaction. Because of these recent findings, we have determined that the use of selenite-cystine may be contraindicated when double strength skim milk is used to moisten drag swabs, and we are adding a sentence to paragraph (b)(1) of § 147.11 to caution against their combined use.

Pooling of Composite Samples

We proposed to amend § 147.12 by allowing the pooling of composite environmental samples to not less than five samples at the laboratory. Our proposal does not address the need to maintain the proper ratio between the volume of material collected and the volume of the enrichment broth. It was our intent to allow this pooling as long as the ratio of the composite environmental samples to the enrichment broth remains approximately 1 to 10. The 1 to 10 material to broth ratio is standard

industry practice and is stipulated in similar provisions elsewhere in the regulations. Therefore, we are adding a phrase to paragraph (a)(2) of § 147.12 to provide clear and consistent guidance.

Miscellaneous

We have also made minor nonsubstantive editorial changes and corrections to the proposed rule.

Therefore, based on the rationale set forth in the proposed rule and in this document, we are adopting the proposal, as changed within this document, as a final rule.

Executive Order 12291 and Regulatory Flexibility Act

We are issuing this rule in conformance with Executive Order 12291, and we have determined that it is not a "major rule." Based on information compiled by the Department, we have determined that this rule will have an effect on the economy of less than $100 million; will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and will not cause a significant adverse effect on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

These changes are based on the recommendations of representatives of member State, hatcheries, dealers, flock owners and breeders who were participants at the Biennial Plan Conference. Since participation in the program is voluntary, individuals are likely to continue in the program as long as the costs of implementing the program are lower than the added benefits they receive from the program.

Several of the procedures for improvement will help prevent disease. The procedure for segregating and testing of nonparticipating birds will prevent disease from spreading into the participating flock. The egg yolk monitoring test for *Mycoplasma gallisepticum* (MG), besides permitting effective identification of the disease, allows for a reduced sample (30 birds rather than 100 birds) that will result in a decreased number of tests. Together with other methods of environmental culturing, the procedure for drag-swab sampling of breeding flocks will likely strengthen the effectiveness of the disease identification procedure. Specifically, if breeders suspect the presence of disease, they will find the drag-swab sampling of the breeding flock environment more cost effective than the previous methods. Any increased cost of these detection and prevention programs will be minor compared to the losses that each producer could bear in case of undetected disease spread. Furthermore, the number of birds required to be tested under this rule is very small compared to the size of flocks within the industry.

According to APHIS and other Federal and State Government data, there are 327 participating hatcheries with a total hatching egg capacity of approximately 490 million egg- and meat-type chickens. Hatcheries with less than a 50,000 hatching egg capacity produce only 1/10th of a percent of this total, while hatcheries with over a 500,000 hatching egg capacity account for 97 percent. Hatcheries with a 50,000 to 499,999 bird capacity account for the remaining 2.7 percent. One amendment to the "U.S. Sanitation Monitored" programs requires necropsy or culturing of 60 birds in the case of one positive sample. The additional cost of implementing this change is very minor when considered in terms of risk to the industry. In addition, the costs of conducting these tests as well as the cost of specific antigens used are modest. For example, a typical cost for performing the Pullorum-Typhoid plate test is $15 for the first 100 birds or fraction thereof at one location, $0.08 for each bird between 100 and 500 at the same location, and $0.04 for each bird in excess of 500 at the same location on consecutive working days. The cost of MG plate test antigen is $0.09 per plate test, while the cost of Pullorum-Typhoid plate test antigen is $0.03 per plate test. Compared to the total size of the hatcheries and to the total losses that individual producers could incur due to disease incidence, the cost of testing a small fraction of birds is minor.

Although information is not available regarding the benefits of the program, implementation of these procedures will likely advance the goals of disease prevention, through early detection and control of the disease, which will result in reduced egg and chick mortality. According to the industry representativess[1] contacted, the long-run losses avoided will far outweigh the cost of implementing the testing procedures. Since the additional costs and benefits are minor, the agency concludes that this rule will be unlikely to have any significant economic impact on producers, consumers, or any other small entities.

Under these circumstances, the Administrator of the Animal and Plant Health Inspection Service has determined that this action will not have a significant economic impact on a substantial number of small entities.

Executive Order 12372

This program/activity is listed in the Catalog of Federal Domestic Assistance under No. 10.025 and is subject to Executive Order 12372, which requires intergovernmental consultation with State and local officials. (See 7 CFR part 3015, subpart V.)

Executive Order 12778

This final rule has been reviewed under Executive Order 12778, Civil Justice Reform. This rule: (1) Preempts all State and local laws and regulations that are in conflict with this rule; (2) has no retroactive effect; and (3) does not require administrative proceedings before parties may file suit in court challenging its provisions.

Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*), the information collection or recordkeeping requirements included in this document have been submitted for approval of the Office of Management and Budget.

List of Subjects in 9 CFR Parts 145 and 147

Animal diseases, Poultry and poultry products, Reporting and recordkeeping requirements.

Accordingly, we are amending 9 CFR parts 145 and 147 as follows:

PART 145—NATIONAL POULTRY IMPROVEMENT PLAN

1. The authority citation for part 145 continues to read as follows:

Authority: 7 U.S.C. 429; 7 CFR 2.17, 2.51, and 371.2(d).

2. Section 145.1 is amended by adding a new definition, in alphabetical order, to read as follows:

§ 145.1 Definitions.

* * * * *

Dealer. An individual or business that deals in commerce in hatching eggs, newly-hatched poultry, and started poultry obtained from breeding flocks and hatcheries. This does not include an individual or business that deals in commerce in buying and selling poultry for slaughter only.

* * * * *

[1] A list of industry representatives from whom information was collected may be obtained from the person listed under FOR FURTHER INFORMATION CONTACT within this document.

§ 145.3 [Amended]

3. In § 145.3(c), the introductory text is amended by removing "NPIP Form 3B" and adding "VS Form 9–2 (formerly NPIP Form 3B)" in its place.

4. Section 145.4(d) is revised to read as follows

§ 145.4 General provisions for all participants.

* * * * *

(d) Except as provided by this paragraph, participants in the Plan may not buy or receive products for any purpose from nonparticipants unless they are part of an equivalent program, as determined by the Official State Agency. Participants in the Plan may buy or receive products from flocks that are neither participants nor part of an equivalent program, for use in breeding flocks or for experimental purposes, under the following conditions only:

(1) With the permission of the Official State Agency and the concurrence of the Service; and

(2) By segregation of all birds before introduction into the breeding flock. Upon reaching sexual maturity, the segregated birds must be tested and found negative for pullorum-typhoid. The Official State Agency may require a second test at its discretion.

* * * * *

§ 145.10 [Amended]

5. Section 145.10(i) is amended by removing "*Mycoplasma*" in the paragraph heading and adding "*U.S.M.*" in its place, and by adding "Figure 10" below the illustrative design.

§ 145.14 [Amended]

6. Section 145.14(a)(1) is amended by adding "or in literature provided by the producer" after the last word in the second sentence.

7. In § 145.14, footnote number "1" and the reference in paragraph (b)(1) are renumbered "3".

§ 145.22 [Amended]

8. Section 145.22(d) is amended by removing "as described in § 147.25" and adding "(see § 147.25 of this chapter)" in its place.

9. Section 145.23 is amended as follows:

a. Paragraph (d)(1)(ii)(A) is amended by removing all text following "(APPI)" and adding in its place "*Salmonella* Education/Reduction Program. The protein products must have a minimum moisture content of 14.5 percent and must have been heated throughout to a minimum temperature of 190 °F. or above, or to a minimum temperature of 165 °F. for at least 20 minutes, or to a minimum temperature of 184 °F. under 70 lbs. pressure during the manufacturing process."

b. Paragraph (d)(1)(v) is amended by adding "The authorized agent shall also collect samples every 30 days after the first sample has been collected." immediately after the first sentence.

c. Paragraph (d)(1)(vi) is amended by removing "-typhoid" in the first sentence.

d. Paragraph (d)(1)(vii) is amended by removing "as described in § 147.25(a) of this chapter" and adding "(see § 147.25 of this chapter)" in its place.

e. Paragraph (d)(1)(viii) is amended by removing "as prescribed in § 147.25 of this chapter" and adding "fumigated (see § 147.25 of this chapter)" in its place.

f. Paragraph (d)(1)(ix) is removed.

g. Paragraph (d)(2) is revised.

h. Paragraph (d)(3) is amended by revising "paragraphs (d)(1)(vi) and (d)(1)(ix)" to read "paragraph (d)(1)(vi)".

As revised § 145.23(d)(2) reads as follows:

§ 145.23 Terminology and classification: flocks and products.

* * * * *

(d) * * *

(2) A flock shall not be eligible for this classification if *Salmonella enteritidis* ser *enteritidis* (SE) is isolated from a specimen taken from a bird in the flock. Isolation of SE from an environmental or other specimen as described in section (d)(1)(v) of this paragraph will require bacteriological examination, as described in § 147.11 of this chapter, of a random sample of 60 live birds for SE in an authorized laboratory. If only one specimen is found positive for SE, the participant may request bacteriological examination of another 60-bird sample from the flock. If no SE is recovered from any of the specimens in the second sample, the flock will be eligible for the classification.

* * * * *

§ 145.32 [Amended]

10. Section 145.32(c) is amended by removing "as described in § 147.25" and adding "(see § 147.25 of this chapter)" in its place.

11. Section 145.33 is amended by revising paragraphs (d)(1)(iii), (d)(1)(iv), (d)(1)(v), and (d)(1)(vi), and by adding new paragraphs (d)(1)(vii) and (d)(1)(viii) and footnote [4a] to read as follows:

§ 145.33 Terminology and classification: flocks and products.

* * * * *

(d) *U.S. Sanitation Monitored.* * * *

(1) * * *

(iii) If pelletized feed contains animal protein, the protein products should be purchased from participants in the Animal Protein Products Industry (APPI) *Salmonella* Education/Reduction Program. The protein products must have a minimum moisture content of 14.5 percent and must have been heated throughout to a minimum temperature of 190 °F. or above, or to a minimum temperature of 165 °F. for at least 20 minutes, or to a minimum temperature of 184 °F. under 70 lbs. pressure during the manufacturing process;

(iv) If mash feed contains animal protein, the protein products should be purchased from participants in the Animal Protein Products Industry (APPI) *Salmonella* Education/Reduction Program;

(v) Feed shall be stored and transported in such a manner as to prevent possible contamination;

(vi) Chicks shall be hatched in a hatchery meeting the requirements of §§ 147.23 and 147.24(b) and sanitized or fumigated (see § 147.25 of this chapter);

(vii) An Authorized Agent shall take environmental samples, as described in § 147.12 of this chapter, from each flock at 4 months of age and every 90 days thereafter. An authorized laboratory for *Salmonella* shall examine the environmental samples bacteriologically;

(viii) Owners of flocks found infected with a paratyphoid *Salmonella* may vaccinate these flocks with an autogenous bacterin with a potentiating agent.[4a]

* * * * *

§ 145.42 [Amended]

12. Section 147.42(c) is amended by removing "as described in § 147.25" and adding "(see § 147.25 of this chapter)" in its place.

§ 145.43 [Amended]

13. Section 145.43, paragraph (f)(3)(i) is amended by removing all text following "must have been" and adding in its place "heated throughout to a minimum temperature of 190 °F. or above, or to a minimum temperature of 165 °F. for at least 20 minutes, or to a minimum temperature of 184 °F. under 70 lbs. pressure during the manufacturing process."

§ 145.52 [Amended]

14. Section 145.52(b) is amended by removing "as described in § 147.25" and adding "(see § 147.25 of this chapter)" in its place.

15. Section 145.53 is amended by revising paragraph (c)(1)(i), the text beginning "*Provided,*" to read as follows:

[4a] Preparation and use of this type of vaccine may be regulated by State statutes.

§ 145.53 Terminology and classification; flocks and products.

* * * * *

(c) *U.S.M. Gallisepticum Clean.* (1)

* * *

(i) * * * *Provided*, That to retain this classification, a random sample of serum or egg yolk from at least 5 percent of the birds in the flock, but at least 30 birds, shall be tested at intervals of not more than 90 days: *And provided further*, That a sample comprised of less than 5 percent may be tested at any one time, with the approval of the Official State Agency and the concurrence of the Service, provided that a total of at least 5 percent of the birds in the flock, but at least 30 birds, is tested within each 90-day period; or

* * * * *

16. Section 145.53(c)(1)(ii)(B) is amended by removing the "; or" at the end of the sentence and adding a "period" in its place.

PART 147—AUXILIARY PROVISIONS ON NATIONAL POULTRY IMPROVEMENT PLAN

17. The authority citation for part 147 continues to read as follows:

Authority: 7 U.S.C. 429; 7 CFR 2.17, 2.51, and 371.2(d).

§ 147.5 [Amended]

18. In § 147.5(b), footnote number "1" is amended by removing "Building 265, Beltsville Agricultural Research Center-East, Beltsville, Maryland 20705" and adding "VS, APHIS, USDA, Federal Building, Hyattsville, Maryland 20782" in its place.

19. Section 147.5(e)(4) is amended by removing "two-fold" in the first sentence and adding "twofold" in its place.

20. Section 147.5(f)(3) is amended by removing "[±]" immediately after "or vice versa" and adding "[∓]" in its place.

§ 147.7 [Amended]

21. Section 147.7 is amended as follows:

a. The seventh sentence of the introductory paragraph is amended by removing "any" immediately before "/ or tube antigens." and adding "and" in its place.

b. In paragraph (d)(1)(ii), the table is amended by removing "12.0" for the listing of Sodium citrate under the Grams column and adding "8.0" in its place, and by revising the entry for "Dextrose".

c. In paragraph (d)(2), the introductory paragraph is amended by removing "PBC" and adding "PBS" in its place.

d. In paragraph (e), the introductory paragraph is amended by removing "(c)" immediately after "§ 147.7" and adding "(d)" in its place.

e. Paragraph (e)(1)(iv) is amended by removing "paragraph (d)(1)(iv)" and adding "paragraphs (d)(1) (ii) through (v)" in its place.

f. Paragraph (e)(3)(x)(G) is amended by removing "0.05" the second time it appears and adding "0.5" in its place.

As revised, the entry for "Dextrose" in the table in paragraph (d)(1)(ii) reads as follows:

	Grams
* * * * *	
Dextrose	20.5
Distilled water to make 1,000 ml	

22. Section 147.11 is amended as follows:

a. The section heading is amended by removing the word "reactors".

b. Paragraph (a) is amended by adding a new paragraph heading, and by removing "gall-bladder" in the first sentence and adding "gallbladder" in its place, and by removing "paragraph (f)" in the last sentence and adding "paragraph (g)" in its place.

c. Paragraphs (b) through (i) are redesignated as paragraphs (c) through (j) and a new paragraph (b) is added.

d. Newly-redesignated paragraph (c)(2) is amended by removing "gall bladder" and adding "gallbladder" in its place.

e. Newly-redesignated paragraph (d) is amended by removing "paragraph (b)" in the first sentence and adding "paragraph (c)" in its place.

f. Newly-redesignated paragraph (g) is amended by removing "paragraph (e)" and adding "paragraph (f)" in its place.

g. In newly-redesignated paragraph (i), footnotes 2 and 3 are redesignated as footnotes 3 and 4. Newly-redesignated footnote 3 is amended by removing "Texas A&M University, College Station, TX 77843" and adding "University of Pennsylvania, New Bolton Center, Kennett Square, Pennsylvania 19348–1692" in its place.

The additions to § 147.11 read as follows:

§ 147.11 Laboratory procedure recommended for the bacteriological examination of Salmonella.

(a) *Bacteriological examination of Salmonella reactors and necropsy specimens.* * * *

(b) *Bacteriologic examination of environmental and other contaminated specimens.* (1) Culture a representative sample of the specimen in tetrathionate Hajna (TTH) selective broth (TT Mueller-Kauffmann or selenite-cystine is also acceptable) as a temperature of 41–42 °C for 24 hours. Note: Do not use selenite-cystine if double strength skim milk is used as a preservative for the sample.

(2) Inoculate an agar late of brilliant green novobiocin (BGN) and an agar plate of xylose-lysine-tergitol 4 (XLT4), incubate at 37 °C for 24 hours, and retain culture tubes at room temperature for 5–7 days for possible reculturing of the negative tubes using 0.25 ml in TTH.

(3) Inoculate *Salmonella* suspect colonies to slants of triple sugar-iron (TSI) and lysine-iron (LI) agar and incubate at 37 °C for 24 hours. Five colony picks per plate should be taken unless 50 percent or more of the plates have *Salmonella*-like colonies. In that case, the number of picks may be reduced to three per plate.

(4) Conduct serologic screening of cultures revealing typical reactions of *Salmonella* on TSI and LI agar slants using somatic O-group antisera agglutination or transfer for further identification to appropriate biochemical tests such as: Dextrose, lactose, sucrose, mannitol, maltose, dulcitol, malonate, gelatin, urea broth, citrate, lysine decarboxylase, ornithine decarboxylase, methyl red and Voges-Proskauer, KCN, salicin broths, indole, and hydrogen sulfide. Motility or non-motility is demonstrated by inoculating a suitable semisolid medium. The Analytical Profile Index API 20E)[3] for Enterobacteriacea (APE) system may also be used for further identification if desired.

(5) Serotype all *Salmonella* group D cultures at the National Veterinary Services Laboratory.

* * * * *

23. Section 147.12 is amended as follows:

a. In paragraph (a)(2), the words "or house" are added after the words "the pen" in the second sentence and the words "or houses" are added after the words "from pens" in the three instances where they appear in the seventh sentence and concluding text is added at the end of paragraph (a)(2).

b. A new paragraph (c) is added.

The additions to § 147.12 read as follows:

§ 147.12 Procedures for collecting environmental samples and cloacal swabs for bacteriological examination.

* * * * *

(a) * * *

(2) * * *

The composite samples above may be pooled to not less than five samples at

[3] We use trade names solely for the purpose of providing specific information. Mention of a trade name does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement over other products not mentioned.

the laboratory as long as the volume of material collected equals approximately 10 percent of the volume of the broth.

* * * * *

(c) *Drag-swabs.* Drag-swabs for bacteriological examination should involve the exposure of at least six unpooled pads per house to promote representative sampling and some element of quantification.

(1) *Drag-swab assembly.* Assemble drag-swab sampling sets from folded-once 3-by-3-inch sterile gauze pads secured with paper clips. Bend end wires of each paper clip slightly to catch into the swab fabric, thus securing the clips to the folded pads. Use two pads, assembled as described to make each drag-swab sampling set. Securely connect one pad through the free rounded end of the paper clip to a 2-ft (0.6 m) length of size 20 fibrous wrapping twine. Similarly connect the other pad to a 1-ft (0.3 m) length of twine. Then securely connect the free ends of both lengths of twine to a small loop tied at the end of a similar 5-ft length of twine. The resulting assembly resembles the letter Y with a 5-ft long vertical stem and two diagonal branches (one 1 ft long and the other 2 ft long), with a folded swab securely attached at the end of each branch. After assembly, place each two-pad drag-swab sampling set into a sterile bag.

(2) *Procedure for taking drag-swab.* (i) *Floor litter:* The Plan participants should collect two samples as follows: Drag four 3-by-3-inch sterile gauze pads premoistened with double strength skim milk [1] over the floor litter surface for 15 min minimally. Place the gauze pads used to collect the samples in 18-oz whirl-pack bags, two pads per bag with each bag containing 5 ml of double strength skim milk. This will maintain the moistness of the sample during transport. Mark the bags with the type of sample and the house identification.

(ii) *Nest-boxes.* The Plan participant should collect one nest-box sample by using two 3-by-3-inch sterile gauze pads premoistened with double strength skim milk. Wipe the two gauze pads used to collect the sample over assorted locations of about 10 percent of the total nesting area. Place the gauze pads used to collect the sample in an 18-oz whirl-pack bag containing 5 ml of double strength skim milk. Mark the bag with the type of sample and the house identification.

[1] Obtain procedure for preparing double strength skim milk from USDA–APHIS "Recommended Sample Collection Methods for Environmental Samples" available from the National Poultry Improvement Plan Staff, VS, APHIS, USDA, Presidential Building, 6525 Belcrest Road, Hyattsville, Maryland 20782.

§ 147.14 [Amended]

24. In § 147.14, footnote number "1" is amended by removing "Texas A&M University, College Station, TX 77843, 1975" and adding "University of Pennsylvania, New Bolton Center, Kennett Square, Pennsylvania 19348–1692, 1980" in its place.

§ 147.15 [Amended]

25. Section 147.15(a) is amended by removing "(e)" in the fifth sentence and adding "(f)" in its place.

26. Section 147.15(b) is amended by removing "(f)" in the fifth sentence and adding "(g)" in its place.

27. Section 147.15(g) is amended by removing "18.0" after "Purified agar (g)--" and adding "12.0" in its place.

§ 147.16 [Amended]

28. Section 147.16(c) is amended by removing "(e)" in the second sentence and adding "(f)" in its place.

29. Section 147.22(c) is amended by revising the first sentence to read as follows:

§ 147.22 Hatching egg sanitation.

* * * * *

(c) The visibly clean eggs should be fumigated (see § 147.25 of this chapter) or sanitized as soon as possible after collection. * * *

* * * * *

§ 147.23 [Amended]

30. Section 147.23(d) is amended by removing "(d)" at the end of the paragraph.

§ 147.24 [Amended]

31. Section 147.24(b)(3) is amended by removing "as described in § 147.25(e)" and adding "(see § 147.25 of this chapter)" in its place.

32. Section 147.24(c) is amended by removing "according to the procedures described in § 147.25(b) (3), (4), and (5)" and adding "(see § 147.25 of this chapter)" in its place.

§ 147.25 [Amended]

33. Section 147.25 is amended by removing paragraphs (a) through (f).

Done in Washington, DC, this 1st day of December 1992.

Lonnie J. King,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 92–29461 Filed 12–3–92; 8:45 am]

BILLING CODE 3410–34–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 1240

[Docket No. 91N–0272]

Control of Communicable Diseases; Definition of Milk and Milk Products

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending the regulations established for the control of communicable disease by defining "milk" and "milk products" and by revising the regulations to clarify that the requirement for pasteurization applies to the dairy ingredients of certain dairy products, such as nonfat dry milk, cottage cheese, or butter. It was never FDA's intention to require that these finished products be subjected to the pasteurization process after their manufacture. The purpose of this technical amendment is to make explicit that which was implicit in the original rule.

EFFECTIVE DATE: December 4, 1992.

FOR FURTHER INFORMATION CONTACT: Johnnie G. Nichols, Center for Food Safety and Applied Nutrition (HFF-346), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202–205–9175.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of January 14, 1992 (57 FR 1407), FDA proposed to amend the regulations that it promulgated under the Public Health Service Act (42 U.S.C. 264) for the control of communicable diseases by including definitions for "milk" and "milk products" among the general definitions in § 1240.3 (21 CFR 1240.3) and by clarifying when dairy ingredients must be pasteurized in accordance with § 1240.61 (21 CFR 1240.61).

Interested persons were given until March 16, 1992, to comment. FDA received three letters, each containing one or more comments, from Federal and State officials. The comments generally supported the proposal. Two comments address issues (lack of repasteurization requirements for in-process and blended dairy products and lack of standards of identity for goat milk products) that are outside the scope of the proposal and, therefore, will not be discussed here.

A summary of the remaining comments and the agency's responses follow:

Laboratories Doing Pullorum-Typhoid testing (P), Sanitation Monitored (SM), Mycoplasma Gallisepticum (MG) Mycoplasma Synoviae (MS), Diagnostic work (D), Typing of Salmonella (TY) and Mycoplasma Meleagridis (MM)

Revised March 1991

NPIP CODE NO.								
Alabama - 64								
2	P		MG	MS		TY	D	Poultry Producers Diagnostic Laboratory, P.O. Box 1010, Cullman 35055. (Dr. B. G. Maxfield) Phone: (205) 739-1414
3	P	T	MG	MS		TY	D	State Veterinary Diagnostic Laboratory, P.O. Box 127, Albertville 35950. (Dr. Charles Roney) Mr. Boyd Hardin-Laboratory Technician in Charge Phone: (205) 878-2471
1	P	T	MG	MS			D	State Veterinary Diagnostic Laboratory, Auburn University, P.O. Box 409, Auburn 36830. (Dr. Frederic Hoerr) Phone: (205) 887-3433
4	P	T	MG	MS			D	Bryan Taylor Diagnostic Laboratory, 495 State Road 203 Elba 36323. (Dr. W. O. Cowart) Phone: (205) 897-6340
Arizona - 86								
1	P	T	MG	MS			D	Veterinary Science Diagnostic Laboratory, University of Arizona, Tucson 85721. (Dr. C. John Mare) Phone: (602) 884-2355
Arkansas - 71								
2	P	T	MG	MS			D	Arkansas Livestock & Poultry Commission Laboratory, 1 Natural Resources Drive, Little Rock 72205. (Dr. H. M. Ghori) Phone: (501) 225-5650
1	P	T	MG	MS	MM			Arkansas Livestock & Poultry Commission Laboratories, P.O. Box 766, Springdale 72764. (Dr. Lloyd Keck) Phone: (501) 751-4869
California - 93								
5	P	T	MG	MS	MM		D	California Veterinary Diagnostic Laboratory Services, Poultry Pathology Laboratory, 2789 S. Orange Ave., Fresno 93725. (Drs. H. L. Shivaprasad and Richard Chin) Phone: (209) 266-9418
6	P	T	MG		MS	TY	D	California Veterinary Diagnostic Laboratory Services, Poultry Pathology Laboratory, 105 W. Central Ave. P.O. Box 5579, San Bernadino 92412. (Dr. Barbara Daft, DVM) Phone: (714) 383-4287
7							D	California Veterinary Diagnostic Laboratory Services, Poultry Pathology Laboratory, Fulkerth Avenue, and Soderquist Road, P.O. Box P, Turlock 95381. (Dr. Arthur A. Bickford) Phone: (209) 634-5837
								California Veterinary Diagnostic Laboratory Services, University of California, P.O. Box 1770, Davis 95616. (Dr. Anthony Castro) Phone: (916) 752-7088

NPIP CODE NO.

California - 93 - Continued

8 P T MG MM MS TY D Nicholas Turkey Breeding Farms, Veterinary Laboratory, P.O. Box Y, Sonoma 95476-1209.
(G. Yan Ghazikhanian, DVM, PhD),
(Mark Bland) Phone: (707) 938-1111

D San Diego County Veterinarian Laboratory Division, Building 4, County Operations Center, 5555 Overland A San Diego 92123
(Dr. Hubert C. Johnston) Phone: (619) 565-5395

P MG MS Demler Laboratory/Division of Pace Setter Products, Inc., 1441 No. Baxter Street, Anaheim, CA 92806
Phone: (714) 535-1604

Colorado - 84

1 P T MG MS D Diagnostic Laboratory, Arkansas Valley Branch, Rocky Ford 81067.
(Dr. Charles Dickie)

2 P T MG MS D Veterinary Diagnostic Laboratory, Colorado State University, Fort Collins 80521.
(Dr. A. E. McChesney)

3 D Alpine Animal Hospital, 2910 Main Ave., Durango 81310.
(Dr. Brown)

4 P T D Colorado State University, Diagnostic Laboratory Grand Junction 81501.
(Dr. Dave Sweitzer)

5 P MG MS MM Colorado Animal Research Enterprises 6200 E. City, Road 56, Fort Collins 80524.
(Dr. D. J. Fagrbery) Phone: (303) 221-4695

P T MG MS MM Longmont Foods Laboratory, 14377 Mead Street, Longmont
(Dr. Douglas Anderson) Phone: (303) 535-4496

Connecticut - 16

1 P T MG MS D Diagnostic Testing Services Laboratory, University of Connecticut, Storrs 06268.
SM (Dr. Louis van der Heide) Phone: (203) 486-3736

SM Arbor Acres, Inc., Marlborough Road, Glastonbury 060
(Drs. Monte Frazier and Ken Takeshita) Phone: (203) 633-4601

Delaware - 50

2 D Delaware Poultry Laboratories, Millsboro 19966.

3 D Department of Poultry Science, University of Delaware, Newark 19711.

1 P T MG MS D Poultry and Animal Health, Delaware Department of Agriculture, Dover 19901.
(Dr. H. W. Towers, Jr., VMD-Delaware State Veterinar
Phone: (302) 678-4821

5 D Poultry and Animal Health, University of Delaware Substation, Georgetown 19947.
(Drs. Ed Odor & M. Salem) Phone: (302) 856-7303

NPIP CODE NO.				
Florida - 58				
2	P	MG	MS	D Cottondale Disease Diagnostic Laboratory, Florida Department of Agriculture and Consumer Services, P.O. Box 37, Cottondale 32431. (Dr. J. O. McKee) Phone: (904) 352-4461
1	P	MG	MS	D Poultry Disease Diagnostic Laboratory, Florida Department of Agriculture and Consumer Services, P.O. Box 1031, Dade City 33525. (Dr. Howard Kahan) Phone: (904) 521-1458
5	P			D Animal Disease Diagnostic Laboratory, Florida Department of Agriculture and Consumer Services, P.O. Box 460, Kissimmee 32741. (Dr. H. L. Rubin) Phone: (305) 847-3185
4	P	MG	MS	D Live Oak Disease Diagnostic Laboratory, Florida Department of Agriculture and Consumer Services, P.O. Drawer O, Live Oak 32060. (Dr. J. L. Fowler) Phone: (904) 362-1216
3				D Miami Springs Disease Diagnostic Laboratory, Florida Department of Agriculture and Consumer Services, 8701 NW. 58th St., Miami 33178. (Dr. D. J. Draper) Phone: (305) 592-3059
Georgia - 57				
1	P T	MG	MS	D Georgia Poultry Laboratory, Box 20, Oakwood 30566. (Dr. Thomas Dickson) Phone: (404) 532-2265 (Dr. W. D. Waltman) (Dr. Robert Barnhart)
2		MG	MS	D Georgia Poultry Laboratory, P.O. Box 349, Canton 30114. (Dr. John P. Bohanan) Phone: (404) 479-2901
4		MG	MS	D Georgia Poultry Laboratory, 1126 Lamar St., Dalton 30720. (Dr. Verlin A. Krabill) Phone: (404) 278-7306
7		MG	MS	D Poultry Disease Diagnostic Laboratory, School of Veterinary Medicine, University of Georgia, Athens 30602. (Drs. R. K. Page and R. B. Davis) Phone: (404) 542-1904
10		MG	MS	D Georgia Poultry Laboratory, RR 5, Box 3, Douglas 31533. (Dr. Daniel H. McRae) Phone: (912) 384-3719
11		MG	MS	D Georgia Poultry Laboratory, P.O. Box 2653, Statesboro 30458. (Dr. Peter Winn Martin) Phone: (912) 681-3569
Hawaii - 95				
1	P T			D State of Hawaii-Dept. of Agriculture, Division of Animal Industry, Veterinary Laboratory Branch, 99-762 Moanalua Road, Aiea 96701. (Dr. Thomas R. Sawa) Phone: (808) 488-3640

NPIP CODE NO.								
	Idaho - 82							
1	P	T	MG	MS			D	Animal Health Industries, 120 Llotz Lane, P.O. Box 7249, Boise 83707. (Dr. Otto Lutteman) Phone: (208) 334-3256
	Illinois - 33							
1							D	Illiinois Department of Agriculture, Animal Disease Laboratory, Shattuc Road, Centralia 62801-9288 (Mr. J. D. Reynolds) Phone: (618) 532-6701
2	P SM	T	MG	MS	MM	TY	D	Illinois Department of Agriculture, Animal Disease Laboratory, 2100 South Lake Storey Road, P.O. Box 2100 Galesburg 61402. (Dr. Douglas Hoefling) Phone: (309) 344-2451
4	P	T	MG	MS			D	University of Illinois, College of Veterinary Medicine, 1225 VMBSB, 2001 S. Lincoln Urbana 61801. (Dr. Ralph Bunte) Phone: (217) 333-1620
5	P	T	MG	MS	MM			State-Federal Serology Laboratory, Agriculture Bldg. Fairgrounds, P.O. Box 19281, Springfield 62794-9281. (Ms. Jacqueline Smith, Lab. Supv.) Phone: (217) 782-47
	P SM	T	MG	MS			D	DeKalb Poultry Research Laboratory, 3100 Sycamore Road, DeKalb 60115. (Dr. Eric Gingerich) Phone: (815) 756-1100
	Indiana - 32							
1	P	T	MG	MS			D	Animal Disease Diagnostic Laboratory, Purdue University Lafayette 47907. (Drs. R. Fulton & Thacker) Phone: (317) 494-7474 Phone: (317) 694-4802
2	P	T	MG	MS			D	Dr. Joe Ostendorf, Milford 46542. Phone: (219) 658-4022
3	P	T	MG	MS			D	Southern Indiana Purdue Poultry & Animal Diagnostic Laboratory, Dubois 47527. (Dr. Tom Bryan) Phone: (812) 678-3401
	Iowa - 42							
2						TY	D	Veterinary Diagnostic Laboratory, Iowa State University, Ames 50010. (Drs. Vaughn Seaton and D. Trampel) Phone: (515) 294-1950
	P SM		MG	MS				DeKalb Poultry Research, RR 2, Box 170, Clarion 50525 (Steve Hilleson) Phone: (515) 825-3595
	P	T	MG	MS	MM	TY	D	Drs. Koehnk & Feldman, Highway 69 North, Jewell 50130 Phone: (515) 827-5491
	P		MG	MS			D	Hy-Vac Laboratory Egg Company, Production & Laboratory 1412 Park Street, Gowrie 50543. (Russel Larson) Phone: (515) 352-3871
	P SM		MG	MS		TY	D	Hy-Line International, 1915 Sugar Grove, P.O. Box 310, Dallas Center 50063. Phone: (515) 992-3736

NPIP CODE NO.							
Iowa - 42 - Continued							
1	P	T	MG	MS	TY	D	USDA, National Veterinary Services Laboratory, P.O. Box 844, Ames 50010. (Dr. Wayne Frerichs) Phone: (515) 862-8565
Kansas - 48							
1	P	T	MG	MS	TY	D	Poultry Pathology Laboratory, Veterinary Clinical Services Building, Kansas State University, Manhattan 66506. (Dr. Albert Strafuss) Phone: (913) 532-5650
2	P	T			TY		Veterinary Diagnostic Laboratory, Kansas State University, Manhattan 66506. (Dr. Harry Anthony) Phone: (913) 532-5650
Kentucky - 61							
1	P	T	MG	MS	TY	D	Department of Veterinary Science, University of Kentucky, Lexington 40505. (Dr. John T. Bryans) Phone: (606) 257-5901
3	P	T	MG	MS	TY	D	MSU Breathitt Veterinary Center, North Drive P.O. Box 2000, Hopkinsville 42240. (Dr. Wade Kadel, Director) Phone: (502) 886-3959
2	P	T	MG	MS	TY	D	Livestock Disease Diagnostic Center 1429 Newton Pike, Lexington 40508. (Dr. Louis E. Newman, Dir.) Phone: (606) 253-0571
Louisiana - 72							
1	P	T	MG	MS	TY	D	W. E. Anderson Diagnostic Laboratory, P.O. Box 1951, Baton Rouge 70804. (Dr. Richard Corstvet) Phone: (504) 389-5704
3	P	T	MG	MS	TY	D	Central Louisiana Diagnostic Laboratory, RR 2, Box 51-F, Lecompte 71346. (Dr. Blake Blakewood) Phone: (318) 443-6993
2	P	T	MG	MS	TY	D	Northwest Louisiana Research & Diagnostic Laboratory, P.O. Box 2156, Natchitoches 71457. (Dr. Rex R. Every) Phone: (318) 352-6272
5							Department of Veterinary Science, LSU, Baton Rouge 70803. (Dr. Wilfred T. Springer)
6			MG	MM MS		D	Louisiana Veterinary Medical Diagnostic Laboratory, LSU School of Veterinary Medicine, South Stadium Drive LSU, Baton Rouge 70803 (Dr. Jim England) Phone: (504) 346-3193

NPIP CODE NO.								
Maine - 11								
3	P	T	MG	MS			D	Division of Veterinary Services, State Office Building, Augusta 04333. (Dr. David Henzler) Phone: (207) 289-3701
1			MG	MS		TY	D	Animal Pathology Laboratory, University of Maine, Orono 04473. (Drs. Michael Opitz and Harold Gibbs) Phone: (207) 581-7521
5			MG	MS			D	Maine Poultry Consultants, Northeast Laboratory Services, Winslow 04901. (Drs. K. H. Eskelund and William Gerencer) Phone: (207) 873-3405 (207) 873-2068
Maryland - 51								
4							D	Animal Health Laboratory, Centreville 21617. Phone: (301) 758-0846
5	P						D	Animal Health Laboratory, College Park 20740. (Dr. N. T. Thapar) Phone: (301) 454-3632
2	P						D	Animal Health Laboratory, Frederick 21701. (Dr. Jacob Casper) Phone: (301) 663-9528
6							D	Animal Health Laboratory, Oakland 21550. (Vacant) Phone: (301) 334-2185
1	P		MG	MS			D	Animal Health Laboratory, Salisbury 21801. (Dr. George Stein) Phone: (301) 543-6610
Massachusetts - 14								
2							D	Avian Diagnostic Laboratory, Suburban Field Station, Beaver St., Waltham 02154. (Dr. George P. Faddoul) Phone: (617) 891-0650
1	P	T	MG	MS		TY	D	Paige Laboratory, University of Massachusetts, Amherst 01002. (Dr. G. Snoeyenbos, & C. Smyser) Phone: (413) 545-242
Michigan - 34								
1	P	T	MG	MS	MM	TY	D	Animal Health Diagnostic Laboratory, College of Veterinary Medicine, P.O. Box 30076, Lansing 48909. (Dr. Willie Reed) Phone: (517) 355-1683 (Dr. L. Dwight Schwartz) Phone: (517) 353-5275
SM								
Minnesota - 41								
3								Minnesota Board of Animal Health, Room 160, 90 West Pl Blvd., St. Paul 55107. (Dr. Keith Friendshuh) Phone: (612) 296-3428
1	P	T	MG	MS	MM	TY	D	Department of Diagnostic Laboratories, College of Veterinary Medicine, University of Minnesota, St. P 55108. (Dr. Marty Bergeland) Phone: (612) 625-8787
SM								
2	P	T	MG	MS	MM			Board of Animal Health, University of Minnesota Poult Testing Laboratory, Box 126, Willmar 56201. (Dr. Dale Lauer) Phone: (612) 231-5170

NPIP CODE NO.							
Mississippi - 65							
3	P	T	MG	MS		D	Central Laboratory, P.O. Box 357, Forest 39074. (Dr. C. R. Sadler) Phone: (601) 469-1852
1	P	T	MG	MS		D	State Veterinary Diagnostic Laboratory, P.O. Box 4389, Jackson 39216. (Drs. Gregory Houghten and Rogers) Phone: (601) 354-6089
			MG	MS			South Central Poultry Research Laboratory, P.O. Box 5367, Mississippi State, 39762. (Dr. S. L. Branton) Phone: (601) 323-2230
Missouri - 43							
1	P	T	MG	MS		D	Missouri Veterinary Diagnostic Laboratory, 1922 N. Broadway, Springfield 65803. (Dr. Keith Van Steenbergh) Phone: (417) 865-2261
2	P	T	MG	MS	TY	D	School of Veterinary Medicine, 104 Connaway Hall University of Missouri, Columbia 65201. Phone: (314) 882-6811 (314) 882-6814
Montana - 81							
1						D	Montana Department of Livestock, Animal Health Division, Diagnostic Laboratory Bureau, P.O. Box 997 Bozeman 59715. (Dr. William J. Quinn) Phone: (406) 994-4885
Nebraska - 47							
1	P	T	MG	MS		D	Department of Veterinary Science, University of Nebraska, Room 120, Lincoln 68583-0905. (Dr. Eva Wallner-Pendleton) Phone: (402) 472-1434
4	P	T	MG	MS			Harris Laboratories, Inc., 624 Peach, Lincoln 68502. Phone: (402) 432-2811
3			MG				Bureau of Animal Industry, Department of Agriculture, P.O. Box 4787, Lincoln 68509. (Dr. Larry Williams, State Veterinarian) Phone: (402) 471-2351
Nevada - 88							
1							Animal Disease Laboratory Nevada State Department of Agriculture P.O. Box 11100, Reno 89510. (Dr. Robert J. Tronstad) Phone: (702) 789-0185
2							Animal Diagnostic Laboratory Nevada State Department of Agriculture P.O. Box 630, Elko 89801. (Dr. Jack Hitchman) Phone: (702) 738-8076

NPIP CODE NO.								
New Hampshire - 12								
2	P		MG	MS				Department of Agriculture, Division of Animal Industry, Concord 03301. (Dr. McGinnis) Phone: (603) 271-2404
1							D	New Hampshire Veterinary Diagnostic Laboratory, Department of Animal Science, University of New Hampshire, Durham 03824. (Drs. Joseph J. Moore III, Richard Kingston, and Roger E. Wells) Phone: (603) 862-2726
New Jersey - 22								
3	P	T	MG	MS			D	New Jersey Department of Agriculture, Divison of Animal Health Laboratory, CN 330 Trenton 08625. (Dr. Robert Eisner) Phone: (609) 984-2250
New Mexico - 85								
2	P	T					D	Veterinary Diagnostic Services, 700 Camino de Salud, Albuquerque 87106. (Dr. Clair M. Hibbs) Phone: (505) 841-2576
New York - 21								
5							D	Duck Research Laboratory, Eastport 11941. (Drs. W.F. Dean, & T. Sandhu) Phone: (516) 325-0600
4			MG	MS		TY	D	Poultry Diagnostic Laboratory, Cornell University, Ithaca 14850. (Dr. B. W. Calnek) Phone: (607) 253-3900
North Carolina - 55								
5	SM						D	Animal Disease Diagnostic Laboratory, P.O. Box 38, Edenton 27932. (Dr. W. R. Gaines) Phone: (919) 482-3146
2	P	T	MG	MS	MM		D	Griffin Animal Disease Diagnostic Laboratory, Box 2183 Monroe, 28110. (Drs. David Booker and JoAnna Quinn) Phone: (704) 289-6448
8	P	T	MG	MS	MM		D	Northwestern Animal Disease Diagnostic Laboratory, P.O. Box 70, Elkin 28621. (Drs. Loren Buchanan and (John Davenport) Phone: (919) 526-2499
10	P	T	MG	MS	MM	TY	D	Rollins Animal Disease Diagnostic Laboratory, P.O. Box 12223, Cameron Village Station, Raleigh 27607. (Dr. J. K. Atwell) Phone: (919) 733-3986 (Dr. K. G. Keenum) Phone: (919) 733-3757 (Dr. L. L. Munger) Phone: (919) 733-3986
	SM							

NPIP CODE NO.		
	North Carolina - 55 - Continued	
6	SM	D Poultry Disease Diagnostic Laboratory, Box 476, Robbins 27325. (Dr. W. R. Wilson, Jr.) Phone: (919) 948-2241
3	P T MG MS MM SM	D Rose Hill Animal Disease Diagnostic Laboratory, Box 37, Rose Hill 28458. (Drs. Hugh M. Powell and Carlton Rouse) Phone: (919) 289-4176
4	SM	D Western Animal Disease Diagnostic Laboratory, P.O. Box 279, Arden 28704. (Drs. Bill Rapp and R. C. Oliver) Phone: (704) 684-8188
7	SM	D Poultry Disease Diagnostic Laboratory, 130 Post Rd., Shelby 28150. (Dr. Darryl Rector) Phone: (704) 482-1531
	North Dakota - 45	
1	T MG MS	D Department of Veterinary Science, North Dakota State University, State College Station, Fargo 58102. (Drs. M. H. Smith and George Schamber)
	Ohio - 31	
1	P T MG MS MM TY	D State Department of Agriculture, Reynoldsburg Diagnostic Laboratory, Reynoldsburg 43068. (Dr. Ram Mohan) Phone: (614) 866-6362
	Oklahoma - 73	
1	TY	D State Department of Health Laboratory, P.O. Box 24106, Oklahoma City 73124. (Dr. Garry McKee) Phone: (405) 271-5070
4	P T MG MS TY	D Oklahoma State University, Animal Disease Diagnostic Laboratory, Stillwater 74074. (Drs. Delbert Whitenack (and Dan Goodwin) Phone: (405) 624-6623
	Oregon - 92	
2	P T MG MM MS TY	D State Department of Agriculture, Animal Health Laboratory, Salem 97310. (Dr. Coffland) Phone: (503) 378-3565
1		D Veterinary Diagnostic Laboratory, Oregon State University, Corvallis 97331. (Dr. J. Anderson and Dr. J. Schmitz, Director) Phone: (503) 754-3261
	Pennsylvania - 23	
2	P MG MS	D Delaware Valley College of Science and Agriculture, Doylestown 18901. Phone: (215) 345-1500
1	P MG MS TY	D Diagnostic Laboratory, Pennsylvania Department of Agriculture, Bureau of Animal Industry, P.O. Box 1430, Harrisburg 17105. (Dr. W. W. Fernando) Phone: (717) 787-8808 (Dr. C. D. Clark) Phone: (717) 787-8808

NPIP CODE NO.						
Pennsylvania - 23 - Continued						
3		MG	MS	TY	D	Diagnostic Laboratory, New Bolton Center, 382 West St. Road, Kennett Square 19348. (Dr. R. Eckroade) Phone: (215) 444-5800
5	P	MG	MS	TY	D	Diagnostic Laboratory, RR #5, Tunkhannock 18657. (Dr. R. Davenport) Phone: (717) 836-2181
4	P	MG	MS	TY	D	Diagnostic Laboratory, Pennsylvania State University, University Park 16802. (Drs. David Kradel & Ron Singletary)
8		MG	MS		D	Dr. Wilson Miller, 823 Rohrerstown Rd., Rohrerstown 17571. Phone: (717) 393-7016
Rhode Island - 15						
2	P	MG	MS	TY	D	Animal Disease Laboratory, Health Laboratory Building, 50 Orms St., Providence 02904. (Patricia A. McNulty) Phone: (401) 274-1011
South Carolina - 56						
1	P T	MG	MS	TY	D	Clemson Livestock Laboratory, Clemson University, Livestock Poultry Health Department, P.O. Box 218 Elgin 29045. (Drs. Thomas Eleazer and William Derieux) Phone: (803) 788-2260
South Dakota - 46						
1				TY	D	Animal Health Laboratory, South Dakota State University, Brookings 57007. (Dr. Mahlon W. Vorhies) Phone: (605) 688-5171
Tennessee - 63						
3	P					Bacteriology Department, University of Tennessee Knoxville 37901. (Dr. Frank Haltman)
2				TY	D	Ellington Agricultural Center, Box 9039, Melrose Station, Nashville 37220. (Dr. H. S. Powell) Phone: (615) 360-0125
1					D	College of Veterinary Medicine, University of Tennessee P.O. Box 1071, Knoxville 37901. (Dr. John New) Phone: (615) 546-9230 Ext. 355
Texas - 74						
4	P T	MG	MS	TY	D	Texas A & M University, Poultry Disease Laboratory at Center, P.O. Box 187, Center 75939. (Dr. Tom Blount) Phone: (409) 598-4451
3	P T	MG	MS	TY	D	Texas A & M University Poultry Disease Laboratory at Gonzales, P.O. Box 84, Gonzales 78629. (Dr. S. E. Glass) Phone: (512) 672-2834

NPIP CODE NO.							
Texas - 74 - Continued							
1	P	T	MG	MS		TY D	Veterinary Microbiology Department, Texas A & M University, College Station 77843. (Drs. Billy Hargis and Floyd Golan) Phone: (409) 845-4186
Utah - 87							
1	P	T	MG	MS		TY D	Veterinary Science Department, Utah State University, Logan 84321. (Dr. Ross A. Smart) Phone: (801) 750-1883
2	P	T	MG	MS		D	Branch Veterinary Laboratory, Box 1068, Provo 84601. (Dr. F. D. Clark) Phone: (801) 373-6383
4			MG	MS		D	Moroni Feed Company, Diagnostic Laboratory, Moroni 84646. (Drs. Terry Olson and David Frame) Phone: (801) 436-8227
Vermont - 13							
1						TY D	Department of Animal Science, University of Vermont Burlington 05405. (Dr. Roger Murray)
2	P		MG	MS			Department of Agriculture, Pullorum Testing Laboratory, Montpelier 05602. (Mr. Robert Muller) Phone: (802) 828-2411
Virginia - 52							
6						D	Ivor Regulatory Laboratory, P.O. Box 290, Ivor 23866. (Dr. Jerry Dawson, Area Veterinarian) (D. W. Helms) Phone: (804) 859-6221
10						TY	Division of Consolidated Laboratories, Bureau of Microbiological Science, 1 N. 14th St., Richmond 23219. (Mrs. Sally Henderson) Phone: (804) 786-5147
2	P	T	MG	MS	MM	D	Harrisonburg Regulatory Laboratory, 116 Reservoir St., Harrisonburg 22801. (Dr. M. V. Morrison, Area Veterinarian) (Drs. Gabriel Meza & E. A. Clinedenst) Phone: (703) 434-3897
4						D	Lynchburg Regulatory Laboratory, Box 4191, Lynchburg 24502. (Dr. Donald Diehl) Phone: (804) 528-6731 (C. E. Sumpter)
1						D	Richmond Regulatory Laboratory, 1 N. 14th St., Richmond 23219. (Dr. Roger Tetzlaff) Phone: (804) 786-2483 (John Yerby)
3						D	Warrenton Regulatory Laboratory, 234 W. Shirley Ave., Warrenton 22186. (Dr. Jerry Wilson) Phone: (703) 347-3131 (Paul Nicholas)
7						D	Wytheville Regulatory Laboratory, Box 436, Wytheville 24382. (Dr. Avery Irwin, Area Veterinarian) (William R. Carter) Phone: (703) 228-5501

NPIP CODE NO.								
Washington - 91								
2	P	T	MG	MS			D	Washington Animal Disease Laboratory, Washington State University, Pullman 99164. (Dr. Anthony M. Gallina) Phone: (509) 335-9696
3	P	T	MG	MD			D	H & N Research Laboratory, Redmond 98052. (Dr. Don Zander) Phone: (206) 486-7154
1	P	T	MG	MS			D	Poultry Diagnostic Laboratory and Department of Veterinary Science, Western Washington Research & Extension Center, Puyallup 98371. (Dr. A. S. Dhillon) Phone: (206) 593-8536
West Virginia - 54								
2							D	Animal Pathology Laboratory, University of West Virginia, Morgantown 26506. Phone: (304) 293-3319
1	P						D	West Virginia Regional Animal Health Laboratory, RR 1, Box 302, Moorefield 26836. (Dr. Jewell G. Plumley) Phone: (304) 538-2397
3	P		MG	MS			D	West Virginia Department of Agriculture, Animal Health Division, State-Federal Laboratory, Capitol Building Charleston 25305.
Wisconsin - 35								
2	P	T	MG	MS	MM	TY	D	Regional Animal Diagnostic Laboratory, 1418 LaSalle Ave., Barron 54812. (Drs. Jones) Phone: (715) 537-3151
Wyoming - 83								
1						TY	D	State Veterinary Laboratory, Box 950, Laramie 82070. (Dr. H. A. Hancock) Phone: (307) 742-2567 (Dr. Robert R. Dahlgren, Dir.) Phone: (307) 742-2567

The National Poultry Improvement Plan

Egg and Meat-Type Chicken Breeding Flocks- Subparts B & C

Testing Requirements for Participation

(Minimum testing requirements only--States may require additional tests)

Pullorum-Typhoid (§§145.23(b) &145.33(b))	M. Gallisepticum (§§145.23(c) & 145.33 (c))	M. Synoviae(§§145.23(e) & 145.33(e))
Method I (§§145.23(b)(1) & 145.33(b)(1)) All Flocks 100% test OR Method II (§§145/23 (b)(2) & 145.33 (b)(2)) Primary Breeding Flocks* 100% test Multiplier Breeding Flocks** No testing required unless premises history unknown or previous flock not classified-300 birds/flock or discretion of Official State Agency OR Method III (§§145.23(b)(3) & 145.23 (b)(3)) Primary Breeding Flocks* 100% test Multiplier Breeding Flocks** No testing required U.S. Pullorum-Typhoid Clean State(§§145.24(a)&145.34(a)) Primary Breeding Flocks* 300 birds/flock Multiplier Breeding Flocks** No testing required *Must originate from P-T Clean breeding flock or equivalent. All isolations of P-T in State must be reported. **First generation progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks will qualify on the same basis as a multiplier breeding flock. This provision is intended only for birds in grandparent flocks which are not to be saved for further genetic improvement.	Primary Breeding Flocks* qualifying test- All birds in flock OR 300 birds/flock Monitoring test- 150 birds in flock every 90 days' Multiplier Breeding Flocks** qualifying test- 150 birds/flock Monitoring test- (a) 75 birds/flock, with a minimum of 30 birds/pen each 90 days OR (b) 25 cull chicks examined bacteriologically each 30 days OR (c) 30 egg yolks examined for antibodies each 30 days U.S. M. Gallisepticum Clean Started Poultry** qualifying test-75 birds, with minimum of 50 birds per house, between 15-20 days prior to moving to laying quarters. U.S. M. Gallisepticum Clean State, Meat-Type Chickens (§145/34(b)) All meat-type breeding flocks in production in the State must be U.S. M. Gallisepticum Clean or equivalent, plus other requirements met by the State *Or multiplier breeding flocks not originating from U.S. M. Gallisepticum Clean primary breeding flocks. **Must originate from U.S. M. Gallisepticum Clean breeding flocks. 'Number tested may be cumulative from smaller samples at more frequent intervals. ** Must originate from U.S. M. Gallisepticum Clean primary breeding flocks.	Primary Breeding Flocks* qualifying test-300 birds/flock monitoring test-150 birds in flock every 90 days' Multiplier Breeding Flocks** qualifying test-75 birds/flock monitoring test-(a) 50 birds per flock every 90 days** OR (b) 30 egg yolks examined for antibodies each 30 days U.S. M. Synoviae Started Poultry*** qualifying test- 75 birds, with minimum of 50 birds/house, between 15-20 days prior to moving to laying quarters. * Or multiplier breeding flocks not originating from U.S. M. Synoviae Clean primary breeding flocks. ** Must originate from U.S. M. Synoviae Clean primary breeding flocks. ***Must originate from U.S. M. Synoviae Clean breeding flocks. ' Number tested may be cumulative from smaller samples at more frequent intervals. ** Number tested may be cumulative from smaller samples at more frequent intervals provided number tested each time is not less than 30 birds per flock nor less than 15 birds per pen.

THE NATIONAL POULTRY IMPROVEMENT PLAN
TURKEY BREEDING FLOCKS - Subpart D

Testing Requirements for Participation #/
(Minimum testing requirements only--States may require additional tests)

PULLORUM-TYPHOID (§ 145.43(b))

METHOD I (§ 145.43(b)(1)
All Flocks
100% test

OR

METHOD II (§ 145.43(b)(2))

Primary Breeding Flocks 1/
100% test

Multiplier Breeding Flocks*
No testing required unless premises history unknown or previous flock not classified-300 birds/flock or discretion of Official State Agency.

OR

METHOD III (§ 145.43(b)(3)
Primary Breeding Flocks 1/
100% test
Multiplier Breeding Flocks*
No testing required

U.S. PULLORUM-TYPHOID CLEAN STATE (§ 145.44(a)

OR

U.S. PULLORUM-TYPHOID CLEAN STATE - TURKEYS (§ 145.44(b))
Primary breeding flocks 1/
300 birds/flock
Multiplier breeding flocks*
No testing required

*Must originate from P-T Clean breeding flocks or equivalent. All isolations of P-T in State must be reported.

1/First generation progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks will qualify on the same basis as a multiplier breeding flock. This provision is intended only for birds in grandparent flocks which will not be saved for further genetic improvement.

M. GALLISEPTICUM (§ 145.43(c)

Qualifying Test -All Flocks at least 12 weeks of age
10% of the birds in the flock

OR

300 bird/flock or each bird in flocks of less than 300 bird**

Monitoring Test All flocks at 28-30 weeks of age- 60 birds from female flocks and 30 birds from male flocks.

**A molted flock must be retested as above within 2 weeks of being brought back into production.

U.S. GALLISEPTICUM CLEAN STATE, TURKEYS 2/(§ 145.44(c))
All turkey breeding flocks in production in the State must be U.S. M. Gallisepticum clean or equivalent, plus other requirements met by State.

2/If State retains this classification for 2 or more years, individual flocks may qualify on a negative test of 100 birds.

M. MELEAGRIDIS (§ 145.43(D))
All Flocks
Qualifying test - 60 birds per flock
Monitoring test - 30 birds from male flock and 60 birds from female flocks tested at 28-30 weeks intervals thereafter.

M. SYNOVIAE (§ 145.43(e))
All Flocks***
Qualifying test

100 birds per flock or each in flocks of less than 100 birds.
Monitoring test - 30 birds from male flocks and 60 birds from female flocks tested at 28-30 weeks of age and at 4-6 week intervals thereafter.

***Flocks located on premises which contained U.S. M. Synoviae Clean breeding flocks for 3 consecutive years may conduct monitoring tests at 28-30 weeks of age and at 45 weeks of age.

#/Condensed from the National Poultry Improvement Plan and Auxiliary Provisions (APHIS 91-40, Revised August 1989).

The National Poultry Improvement Plan
Waterfowl, Exhibition Poultry, and Game Bird Breeding Flocks- Subpart E
Testing Requirements for Participants[1]
(Minimum testing requirements only-States may require additional tests)

PULLORUM-TYPHOID (§145.53(B))	M. GALLISEPTICUM (§145.53(C))
METHOD I (§ 145.53(b)(1)) All Flocks 100% test OR Multiplier Breeding Flocks* No Testing required unless premises history unknown or previous flock not classified-300 birds/flock or discretion of Official State Agency. OR METHOD III (§ 145.53(b)(3)) Primary Breeding Flocks** 100% test Multiplier Breeding Flocks* No testing required U.S. PULLORUM-TYPHOID CLEAN STATE (§ 145.54(A)) Primary Breeding Flocks 300 birds/flock OR, for game birds, an approved serological examination monitoring program may be used OR, for waterfowl and exhibition breeding flocks located in a State which has been a U.S. Pullorum-Typhoid Clean State for the past 3 years, during which time no pullorum or typhoid was traced to a source in the State, an approved serological examination monitoring program be used. Multiplier Breeding Flocks* No testing required * Must originate from P_T Clean Primary breeding flocks or equivalent. All isolation of P-T in State must be reported. **First generation progeny of a primary breeding flock which is intended solely for the production of multiplier breeding flocks will qualify on the same basis as a multiplier breeding flock. This provision is intended only for birds in grandparent flocks which will not be saved for further genetic improvement.	Primary Breeding Flocks• Qualifying test - All birds in the flock OR 300 birds/flock Monitoring test - 5% of birds in flock every 90 days with a minimum of 100 birds/flock•• Multiplier Breeding Flock••• Qualifying test - 50% of birds in flock with a maximum of 200 birds/flock and minimum of 30 birds/flock Monitoring test - (a) 2% of birds in flock with a minimum of 30 birds/pen every 90 days OR (b) 25 cull baby poultry examined visually, bacteriologically, and serologically every 30 days • Or multiplier breeding flocks not originating from U.S. M Gallisepticum Clean Primary breeding flocks. •• Number tested may be cumulative from smaller samples at more frequent intervals. ••• Must originate from U.S. M. Gallisepticum Clean primary breeding flocks.

[1]Condensed from the National Poultry Improvement Plan and Auxiliary Provisions (APHIS 91-40, Revised August 1989).

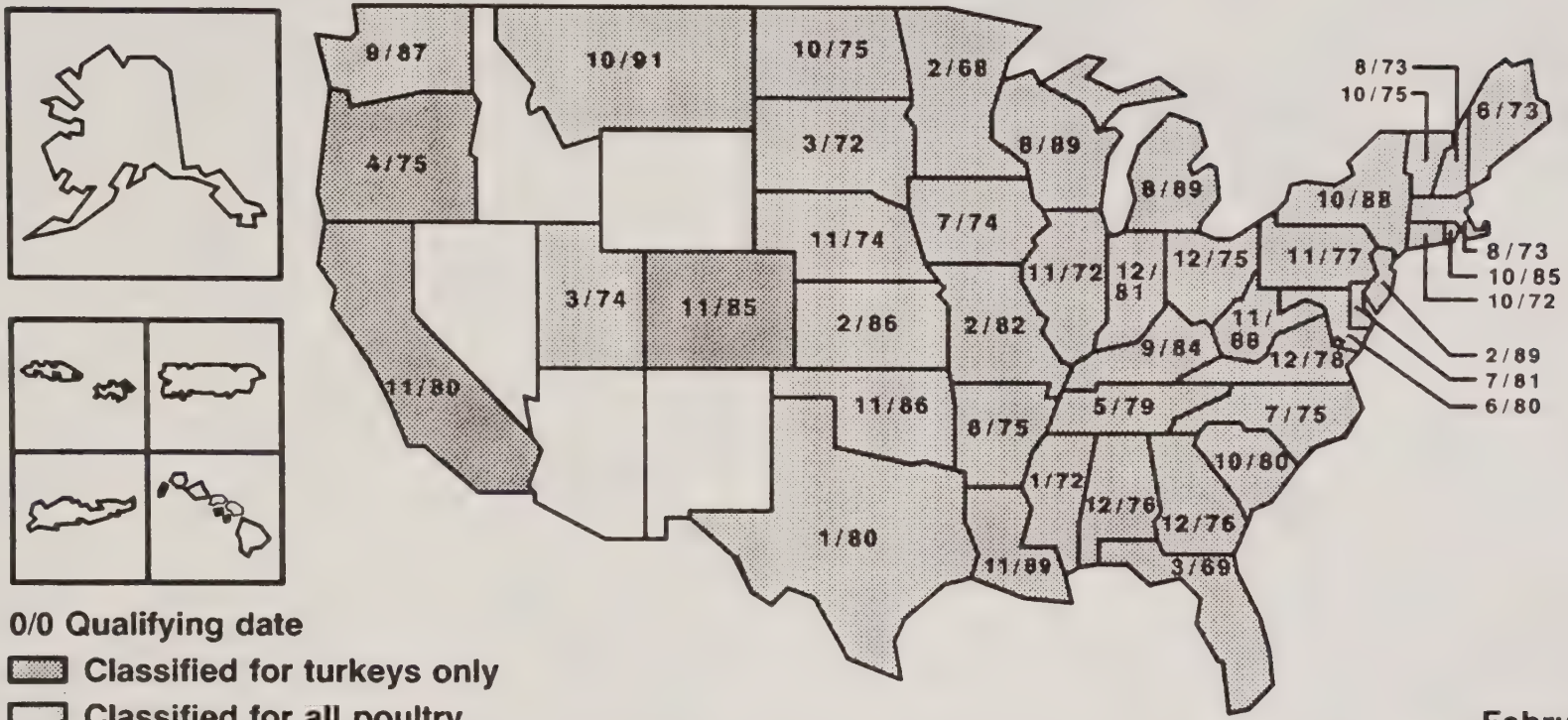
THE NATIONAL IMPROVEMENT PLAN
TESTING REQUIREMENTS FOR PARTICIPATION

U.S. SANITATION MONITORED PROGRAM

Subpart B-Egg-Type Chickens	Subpart C-Meat Type Chickens	Subpart D-Turkeys
A. Either originate from "U.S. Sanitation Monitored" primary breeding flock and hatchery. or Culture meconium from chick boxes, and sample of chick mortality first 7 days.	No routine testing required Official State Agency may use monitoring procedures described in section 147.14 Program approved at 1990 Biennial Conference.	Bacteriologically Examine: 1. Hatchery Debris and/or sample of dead poults first 10 days
B. Pre-breeding qualifying examination (after 4 months) (a) Test 300 birds with pullorum antigen-necropsy strongest reacting birds (not more than 25) and (b) Examine environmental samples bacteriologically (147.12 - drag swab, composite samples, or direct culture) 4 cultures of litter and 1 culture of nests.	1. 4 months or older and every 90 days thereafter examine environmental samples bacteriologically (147.12 - drag swab, composite samples, or direct culture) 4 cultures of litter and 1 culture of nests	2. Enviromental samples as described in section 147.12 (a) 12-20 weeks (b) 35-50 weeks (midlay molted flocks) (c) when flock is marketed 3. Hatchery Debris and/or samples of dead poults from progeny flocks periodically to evaluate effectiveness
C. Monthly examine bacteriologically environmental samples (drag swab, composite samples, or direct culture- 147.12) 4 cultures of litter and 1 culture of nests.		

National Poultry Improvement Plan

U.S. Pullorum-Typhoid Clean States



0/0 Qualifying date

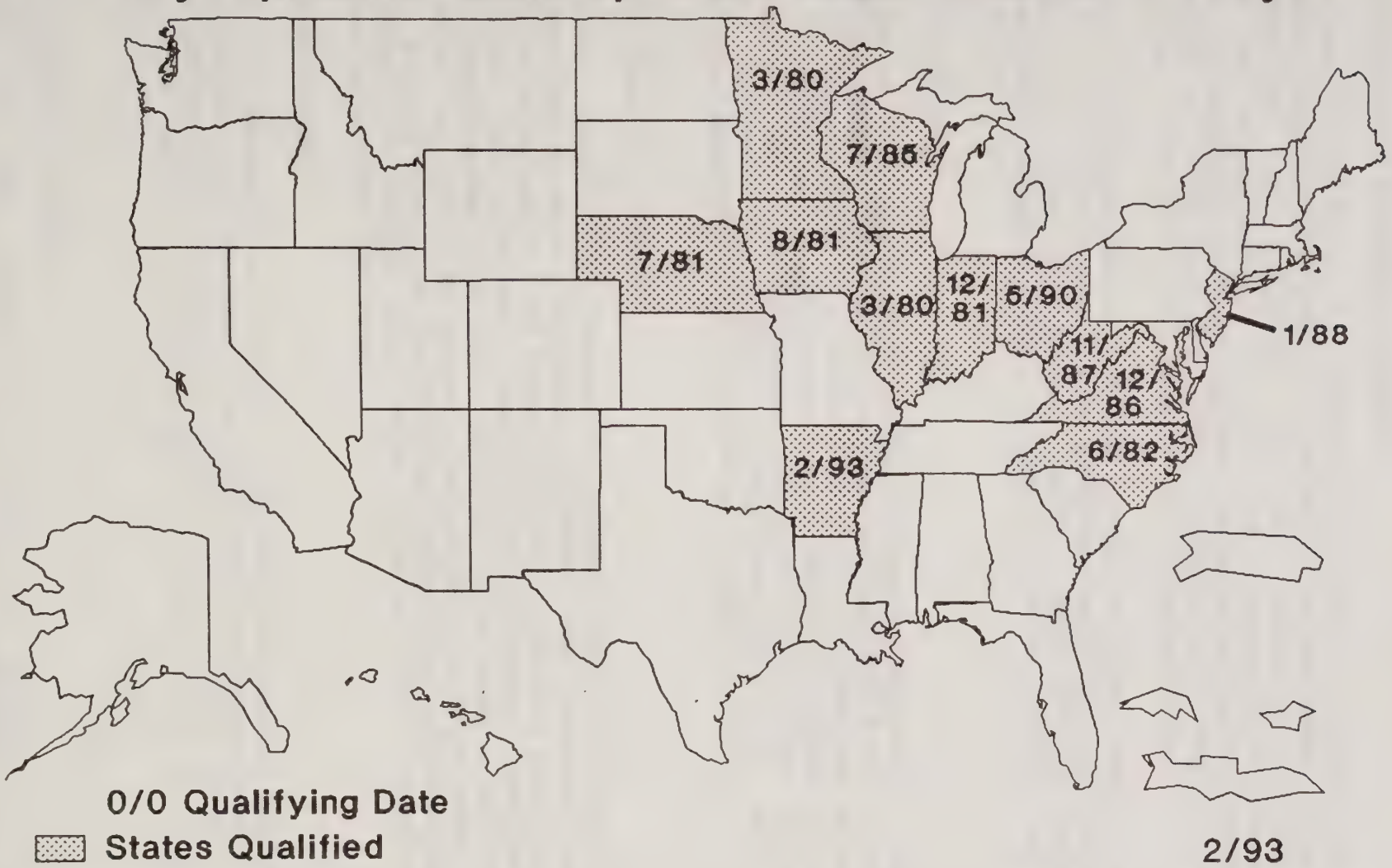
Classified for turkeys only

Classified for all poultry

February 1992

National Poultry Improvement Plan

U.S. Mycoplasma Gallisepticum Clean States-Turkeys



POULTRY HEALTH ADVISORY COMMITTEE REPORT - 1992

Egg-Type Chicken Health - Summary

Infectious Bronchitis and Infectious Bursal Disease were the infectious agents reported most frequently as problems. *Mycoplasma gallisepticum*, *M. synoviae*, *E. coli*, Marek's disease, and Infectious Laryngotracheitis were also reported as common causal agents. *Salmonella enteritidis* was listed as a frequent problem by 25 percent of those reporting and infrequent but a serious problem when it was observed by 50 percent of the submitters.

Enteritis, yolk peritonitis, fatty liver, prolapse, and flies were frequent conditions observed as problems as well as drops in egg production. Other conditions reported by a few as frequently observed were airsacculitis, fertility, hatchability, and shell quality problems.

Research Needed.

Research on *Salmonella enteritidis* was most frequently listed as urgently needed followed by Infectious Bronchitis or at least a means of identifying or characterizing the infectious bronchitis virus. Research was also reported as urgently needed on Marek's disease and *M. gallisepticum*. Necrotic enteritis, infectious bursal disease, infectious laryngotracheitis, *E. coli*, and *Pasteurella hemalytica* were listed as needing research.

Broiler Health - Summary

IBV, IBDV, coccidiosis, Newcastle disease, and reovirus problems were reported as more frequently observed. The disease process or condition reported as most frequently observed were airsacculitis, bronchitis, leg problems, heart attacks/flipover, ascites, and immune suppression problems. Aplastic chick anemia was reported most often as being infrequent but serious problem when it did occur. *M. gallisepticum*, *M. synoviae*, infectious laryngotracheitis were causative agents which were infrequent but caused serious problems when they did occur.

Research Needed.

Infectious bronchitis, ascites, and leg problems or deformities were reported most frequently as needing research assistance. Also often reported as urgently needing research were chick anemia, infectious bursal disease, salmonellosis, and airsacculitis problems.

Turkey Health - Summary

E. coli was the infectious disease most frequently observed followed by bordetellosis, fowl cholera, Newcastle disease and

helminths. Aspergillosis, salmonellosis, staphylococcosis, and rotaviral infections were frequently reported as problems. Chlamydiosis (ornithosis), M. gallisepticum, M. synoviae, and avian influenza were reported often as agents infrequent but causing serious problems when observed.

Leg problems and perirenal hemorrhage were conditions reported as most frequently observed. Osteomyelitis, osteochondrodystrophia, airsacculitis, stunting syndrome, round heart, and broodiness were reported as conditions frequently observed. Reproduction problems i.e. egg production, fertility, hatchability were reported as infrequently seen but serious when they occurred as well as high condemnations.

Research Needed.

Turkey disease problems considered most urgently needing research are enteritis/stunting syndrome, perirenal hemorrhage, and leg problems. Another group of problems receiving high priority were fowl cholera/pasteurella diagnoses, Bordetella avium, salmonella, and fungal/mycotoxin/aspergillosis. Colibacillosis/airsacculitis/mycoplasma complex, hemorrhagic enteritis, and breast blisters (leg problems) were often reported also as needing research.

TURKEY INDUSTRY RESPONSE SUMMARY

Disease Agent or Condition Problem	Number Reporting Disease or Condition Problem Codes - 1 - Frequent 2 - Occasional 3 - Infrequent 4 - Infrequent but serious when it occurs 0 - Not Observed					Number Reporting Research Needed 1 - Urgent 2 - Important 3 - Future Need		
	1	2	3	4	0	1	2	3
Fowl Cholera	4	8	1	1	-	2	3	1
Other Pasteurella	-	-	9	1	4	-	-	-
Erysipelas	1	1	10	1	1	-	-	-
Salmonellosis	2	7	5	-	-	1	5	-
Chlamydiosis	-	1	5	5	2	1	1	-
Bordetellosis	5	5	2	1	1	1	5	-
M. gallisepticum	-	2	4	5	3	-	-	-
M. meleagridis	-	5	6	2	1	-	-	-
M. synoviae	-	2	5	5	2	2	1	-
M. iowae	2	4	6	1	1	-	1	2
Colibacillosis	9	2	2	1	-	2	1	-
Staphylococcosis	2	8	3	1	-	-	-	-
NDV	4	6	1	1	2	1	2	-
Avian Influenza	1	1	6	4	2	1	2	-
Pox	-	2	10	1	1	-	-	-
Rotavirus	2	6	3	-	3	1	-	-
Coccidiosis	1	5	8	-	-	1	2	-
Cryptosporidiosis	-	-	12	-	2	-	1	-
Large Seg. Fil. Org.	3	1	4	1	5	-	-	-
Mites	1	1	10	-	2	-	1	-
Worms	4	2	6	-	2	-	1	-
Flies	1	3	8	-	2	-	-	-
Aspergillosis	3	7	3	1	-	1	5	1
Candidiasis	2	3	8	-	1	-	-	-
Mycotoxins	1	2	7	2	2	-	-	-
Pseudomonas	-	-	1	-	-	-	-	-
Reovirus	-	-	1	-	-	-	-	-
Airsacculitis	5	6	1	-	2	1	2	-
Sinusitis	-	4	6	1	3	-	-	-
Hem. Enteritis	1	7	5	-	1	2	1	-
Stunting Syndrome	3	6	3	-	2	5	3	-
Blue Comb (Corona)	-	1	5	2	6	-	-	-
Green Liver	2	3	6	-	3	-	-	-
Synovitis/Arthritis	1	8	3	-	2	-	-	-
Osteomyelitis	3	6	4	-	1	-	-	-
Osteochondrodys.	5	3	4	-	1	-	-	-
Leg Problems	8	4	-	-	2	4	4	-
Pectoral Hematomas	1	1	7	-	5	-	-	-

Aneurysm	2	2	7	1	2	-	-	-
Perirenal Hemorrhage	7	4	2	-	1	5	-	1
Round Heart	4	5	3	-	2	1	3	-
Fertility	-	3	2	3	6	-	-	1
Hatchability	1	5	1	3	6	-	-	-
Prolapse	3	3	3	1	4	-	1	-
Salpingitis	1	2	4	-	7	-	-	-
Excessive Condemn.	2	4	3	3	2	1	1	-
Broodiness	5	4	-	2	3	1	1	-
Breed Differences						1	1	1
Mycoplasma						1	2	-
Food Safety-Consumer						1	-	1
TRTV						1	3	1
Pasteurella Diagnosis						2	-	-
Breast Blisters/Buttons						2	-	-
Vitamin Stabilization						-	1	-
Ulcerative Enteritis						-	-	1
Necrotic Enteritis						-	-	1
Vitamin E Requirements						1	1	-
Rickets						-	1	-
Lung/Heart Capacities						-	-	1
Stress at Artificial Insemination						-	-	1
Litter Management						-	1	-
Campylobacter						-	1	-
Parasitic Diseases						-	-	1
Digestive Diseases						-	1	-
Musculo/Skeletal Diseases						-	-	1
Cardiovascular Diseases						-	-	1
Reproductive Diseases						-	2	-
Management						1	1	-
Practical Biosecurity						-	1	-
Enteritis						-	2	1
Blisters						-	1	-
Salmonella in Feed						1	-	-
First Egg Mortality						1	-	-
Leg Deformities						1	-	-

EGG INDUSTRY RESPONSE SUMMARY

Disease Agent or Condition Problem	Number Reporting Disease or Condition Problem Codes - 1 - Frequent 2 - Occasional 3 - Infrequent 4 - Infrequent but serious when it occurs					Number Reporting Research Needed 1 - Urgent 2 - Important 3 - Future Need		
	1	2	3	4	0	1	2	3
S. enteritidis	2	-	2	4	-	5	2	1
Other Salmonella	-	2	6	-	-	-	-	2
M. gallisepticum	2	2	3	-	1	1	2	2
M. synoviae	1	4	2	-	-	-	-	2
H. paragallinarum	-	-	4	2	2	-	-	1
P. multocida	-	1	4	2	1	-	-	1
P. hemalytica	-	2	4	1	1	-	3	-
E. coli	1	5	2	-	-	-	3	-
MDV	1	5	1	1	-	2	1	1
IBV	4	4	-	-	-	3	2	-
IBDV	3	4	-	-	1	-	6	-
ILTV	1	3	2	2	-	-	4	1
Pox	-	3	4	1	-	-	-	1
NDV	1	1	6	-	-	-	1	1
Reovirus	-	2	4	1	1	-	-	1
Adenovirus	-	1	6	-	-	-	-	1
Rotavirus	-	-	7	-	1	-	-	1
AE	-	1	6	-	1	-	-	1
Mites	-	3	4	-	1	-	-	1
Helminths	-	-	6	-	1	-	-	1
Coccidiosis	-	3	4	-	1	-	-	1
Flies	3	2	2	-	1	-	2	-
Cryptosporidiosis	-	-	6	-	2	-	-	1
Pasteurellosis						-	-	1
Bordetellosis						-	-	1
Rhinitis/Sinusitis	-	2	2	-	4	-	-	1
Airsacculitis	1	2	3	-	2	-	-	1
Non-spec. enteritis	2	1	2	-	3	-	-	-
Fatty Liver	1	4	1	1	1	-	2	1
Hysteria	-	1	3	2	2	-	1	-
Yolk peritonitis	2	3	1	-	2	-	-	-
Cannibalism	-	3	3	1	1	-	1	-
Prolapse	1	4	1	1	1	-	1	-
Egg Production	2	1	2	1	2	-	-	1
Fertility	1	-	3	-	4	-	-	1
Hatchability	1	-	3	-	4	-	-	1
Shell quality	1	2	4	-	1	-	1	-
Salpingitis	-	2	3	-	3	-	-	1
Anemia	-	-	5	-	3	-	-	1
Gangren. Dermatitis	-	-	5	-	3	-	-	1

BROILER INDUSTRY RESPONSE SUMMARY

Disease Agent or Condition Problem	Number Reporting Disease or Condition Problem Codes - 1 - Frequent 2 - Occasional 3 - Infrequent 4 - Infrequent but serious when it occurs					Number Reporting Research Needed 1 - Urgent 2 - Important 3 - Future Need		
	1	2	3	4	0	1	2	3
Salmonellosis	1	6	2	3	-	4	2	-
P. multocida	2	4	4	2	-	2	2	-
Other Pasteurella	-	1	8	-	3	-	2	-
Campylobacter	1	3	8	-	-	2	4	-
Clostridium	1	2	5	3	1	1	2	1
M. gallisepticum	-	-	6	6	-	1	2	-
M. synoviae	-	2	4	6	-	1	2	-
H. gallinarum	1	-	6	4	1	1	1	1
Marek's Disease	2	4	4	2	-	2	2	-
IBDV	6	4	2	-	-	3	2	-
IBV	8	4	-	-	-	5	5	-
NDV	4	5	2	1	-	-	3	-
Reovirus	4	3	5	-	-	-	4	-
Rotavirus	-	-	10	-	2	-	-	1
ILT	-	2	3	7	-	1	5	-
Pox	-	2	5	5	-	-	1	1
Adenovirus	-	2	9	-	1	-	-	1
Coccidiosis	3	7	2	-	-	-	5	-
Cryptosporidiosis	-	3	8	1	-	-	-	2
Ascarids	1	2	9	-	-	1	1	1
Capillaria	2	2	8	-	-	1	1	-
Insects	1	2	6	-	3	-	3	1
Airsacculitis	7	3	2	-	-	3	2	-
Bronchitis	6	4	1	1	-	1	2	-
Tracheitis	3	3	5	1	-	1	1	-
Rhinitis/Sinusitis	2	1	7	1	1	-	-	-
Hepatitis	1	1	9	1	-	-	-	-
Enteritis	3	5	4	-	-	1	2	-
Typhylitis	-	1	11	-	-	-	-	-
Stunting Syndrome	-	7	4	1	-	-	-	-
Gizzard Erosion	1	6	5	-	-	-	1	-
Leg Problems	8	4	-	-	-	4	1	-
Oily Birds	-	1	10	1	-	-	-	-
Synovitis/Arthritis	4	3	3	2	-	1	2	-
Heart Attack/F.Over	8	3	1	-	-	2	3	-
Ascites	10	1	1	-	-	5	3	-
Immune Suppression	7	2	3	-	-	3	1	-
Aplastic Anemia	-	5	3	4	-	3	3	-
Spiking Mortality	1	-	10	1	-	1	-	-
Gangren. Dermatitis	1	2	8	1	-	-	-	-

Fertility	-	4	8	-	-	-	-	-
Hatchability	-	5	7	-	-	-	1	1
Egg Production	2	4	6	-	-	-	1	-
Shell Quality	-	6	5	1	-	-	1	-
Cannibalism	-	1	11	-	-	-	-	-
Broodiness	-	1	11	-	-	-	-	-
Floor Eggs	-	2	10	-	-	-	-	-
Squamous Cell Carc.	2	1	-	-	-	2	1	-
Neoplasia	-	-	3	-	-	-	-	1
Tibial Dyschondr.	1	-	-	-	-	2	-	-
Bordetellosis	-	-	-	-	-	-	1	-
Nutrition	-	-	-	-	-	1	-	-
Mycotoxin	-	-	-	-	-	-	1	-
CAA/IBDV Complex	-	-	-	-	-	1	-	-
Staphylococcosis	-	-	-	-	-	-	1	-
E. coli	-	-	-	-	-	1	1	-
S. enteritidis	-	-	-	-	-	1	-	-
Swollen Head/TRTV	-	-	-	-	-	2	1	-
Avian Influenza	-	-	-	-	-	-	1	-
Listeria	-	-	-	-	-	1	1	-
Mycoplasma	-	-	-	-	-	-	2	-
Cestodes	-	-	-	-	-	1	1	-
Health/Heredity	-	-	-	-	-	-	1	-
Respiratory Disease	-	-	-	-	-	1	-	-
Musc./Skeletal/Nutr.	-	-	-	-	-	1	-	-
Immun./Metabol./Hor.	-	-	-	-	-	1	-	-
Reproductive	-	-	-	-	-	-	-	2
Reg./Pub. Heal./Exotic	-	-	-	-	-	-	-	1
Worm Drug Therapy	-	-	-	-	-	-	1	-
Sal./Food Borne/P.H.	-	-	-	-	-	1	-	-
Stress/Health	-	-	-	-	-	1	-	-

Lymphoid Leukosis	-	-	5	1	2	-	-	1
Hemangioma	-	-	5	-	3	-	-	-
Toe/web cracks/inf.	-	1	-	-	-	-	-	-
Mycotoxin	-	1	-	-	-	-	-	-
Bursal Damage	1	-	-	-	-	-	-	-
Necrotic hepatitis	-	-	-	1	-	1	-	-
Beetles	-	-	-	-	-	-	1	-
Campylobacter	-	-	-	-	-	-	1	-
IBV serotyping	-	-	-	-	-	1	1	-
Swollen head/TRTV	-	-	-	-	-	-	1	-

REPORT TO THE COMMITTEE ON TRANSMISSIBLE DISEASES OF POULTRY AND AVIAN SPECIES AND THE SALMONELLA COMMITTEE AT THE 1992 MEETING OF THE USAHA

Pullorum-Typhoid Status

In calendar year 1991, there were 99 isolations/outbreaks of Salmonella pullorum reported to the Poultry Improvement Staff. There have been no isolations of S. gallinarum reported since 1988. These isolations/outbreaks were reported by 13 States. Six States reported 89 percent of the isolations/outbreaks. One hatchery shipping many chicks by mail was responsible for 56 isolations/outbreaks. Investigations of these shipments, where transmission occurred at a high rate, were reported as pullorum disease if high mortality occurred or reactors were found even without isolation of the organism.

The elimination of S. pullorum from the operation of an integrated producer of broiler/roasters occurred in 1991; and the last isolation reported was in October of that year. This operation was responsible for 22 isolations of S. pullorum reported from five States in 1991.

During the 1992 calendar year from January to October 1st, there have been 22 isolations of S. pullorum and no isolations of S. gallinarum. Nine of these isolations were reported from one State. None of the isolations were obtained from commercial poultry flocks.

NATIONAL POULTRY IMPROVEMENT PLAN

The Biennial Conference of the National Poultry Improvement Plan (NPIP) was held in Colorado Springs, in June 1992. Changes in the NPIP were approved by the voting delegates from participating States. Several changes included improvements in the culturing or testing of disease organisms involved in the NPIP. Changes in the "U.S. Sanitation Monitored" program for egg-type chicken breeding flocks included change in the name to "U.S. S. Enteritidis Monitored", environmental culturing at an earlier age - 2 to 4 weeks of age; use of an approved bacterin in environmental negative flocks as an acceptable preventive practice; and provide for fewer birds to be cultured for salmonella in small flocks when S. enteritidis is found in an environmental sample. A change approved by the conference would require the testing of all grandparent chicken flocks for pullorum-typhoid. Other changes were also approved to improve the administration of the program.

Montana became the 40th State to be classified as "U.S. Pullorum-Typhoid Clean State." Only eight Western States of the 48 contiguous States remain unclassified.

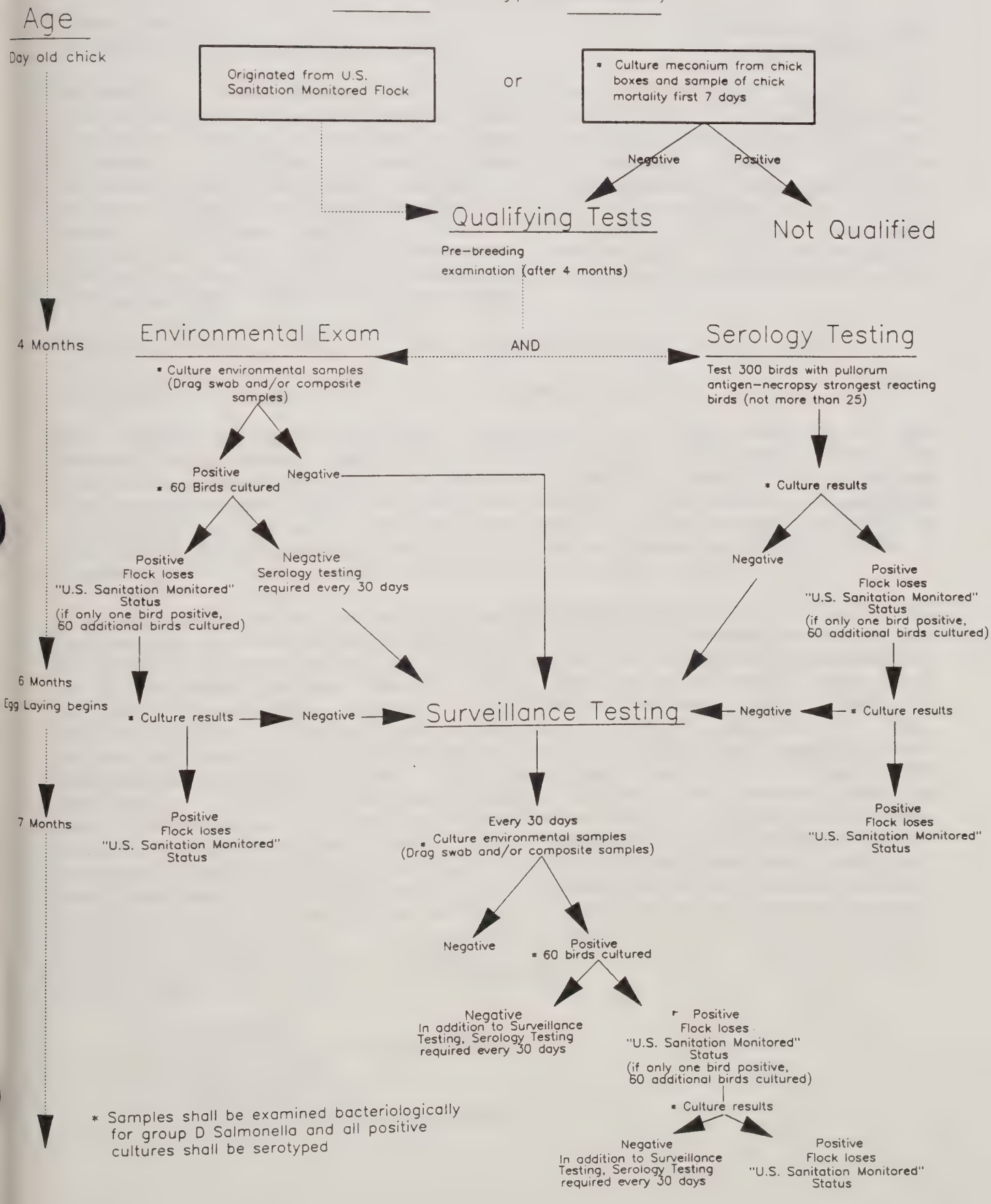
Order Form

Please send __1 __2 __3 copies of the video entitled PREVENTING PULLORUM-TYPHOID—IT'S EVERYONE'S RESPONSIBILITY to

Name_____
State_____
Address_____
City_____ State_____ Zip_____

Return this order form to : National Poultry Improvement Plan
Preventing Pullorum-Typhoid—It's Everyone's
Responsibility.....VIDEO
USDA, APHIS, VS
Room 205, Presidential Bldg
Hyattsville, MD 20782

National Poultry Improvement Plan
Egg Type Chicken Breeding Flock
U.S. Sanitation Monitored Flow Chart
(Salmonella serotype enteritidis)



DRAFT

Minutes
Meeting with Egg-Type Breeders
National Poultry Improvement Plan (NPIP)

Room 208C
Minneapolis Convention Center

February 18, 1993
Minneapolis, MN

Present: Ron Truex, Creighton Bros., George Boggan, H&N International, Alan Bargmeyer, H&N International, Eddie Creighton, Creighton Bros., Kenton Kreager, Hy-Line International, Ned Grayson, Hy-Line International, Dennis Casey, Hy-Line International, Armando Mirande, Dekalb Poultry Research, Gary Waters, Dekalb Poultry Research, Jack L. Heavenridge, Ohio Poultry Assoc., William DeCloux, Clock & De Cloux/ Euribid, USA, Rick Grume, American Selected Products, Don Grubbs, American Selected Products, Don Dalton, Southeastern Poultry and Egg Association, Mr. Ted Huisinga, Willmar Turkey Farms

USDA personnel: Andrew R. Rhorer, Senior Coordinator, NPIP

Meeting called to order by Mr. Rhorer, 7:10 a.m.

Mr. Rhorer distributed the minutes of the joint meeting of the General Conference Committee and the Industry Advisory Council of the NPIP January 20, 1993 in Atlanta, Georgia. Mr. Rhorer advised the group of the concerns relative to the Pennsylvania Salmonella enteritidis (SE) pilot project expressed at the January meeting by the egg-type breeders. Mr. Rhorer asked those present to take a moment and look over the concerns expressed in the minutes.

Dr. Gary Waters expressed the concern that there was no capacity for error in the current protocol of the SE Pennsylvania Pilot Project. Dr. Waters said, if this project is a research project as it is reported to be, then results must be verifiable. Any good scientific research project involving biological models that is reliable must be verifiable and should contain replicates. Dr. Waters stated that if a breeder pulled 10 chick paper samples, and the pilot project pulled 10 chick papers and one of the pilot project's chick papers was positive, there is no attempt made by the pilot project to verify this finding or to replicate it. Dr. Waters stated that Dr. Kradel wanted the ability to go back to the breeder flock and check it to see if it is positive when they find just one positive chick paper. Dr. Water's stated that Dr. Kradel believes that all we do is collect 3 drag swabs per month on egg-type breeding flocks. He then surveyed all those around the table to see if that was the extent of their testing. Those present stated that they tested the following:

1. Meconium
2. Hatchers and hatcher trays
3. Cull chicks
4. Hatchery offal
5. Breeder flock environment

a. Every 2 weeks
b. Pits, egg belts, nest boxes, fan louvers, ceilings and walls, and rodents.

Mr. Bill DeCloux asked who is liable with 10 separate deliveries from the same hatch and breeding flock and only 1 shipment of the 10 with one positive chick paper. He asked about the sampling protocol. If the sample is pulled off the back of the hatchery truck or when the birds are in the house. He stated either place is a pretty hostile environment given the fact that SE contamination can occur through an airborne route. He felt if he had all his testing results and they were negative, and all the other shipments from the same hatch were negative, then the positive result is highly suspicious and should be verifiable. In either case liability of the breeders must stop at the hatchery.

Dr. Don Grubb asked if the SE pilot project was a research project, and if so then there should be some confidentiality maintained. In several cases in the project rumors spread like the wind causing severe damage to the hatchery and breeder. He suggests that if it is a research project a claimed then confidentiality must be maintained. If it is a regulatory project, then call it the same. Put all the cards on the table.

Dr. George Boggan reconfirmed Dr. Grubb's concerns about confidentiality. He stated that he was under the impression that the project was to be predicated on confidentiality. He stated that it is a double standard. The egg producer is exempt from the SE traceback/traceforward regulation if he/she participate in a voluntary SE control program (Pennsylvania Pilot Project), but that the breeder was held to an even higher standard of scrutiny than the SE traceback/traceforward regulation with no regulatory exemption. Rather, the pilot project maintains that the breeder testing is not adequate and is exerting regulatory authority with no regulations in place. It is a very tenuous position that the pilot project is in legally.

Dr. Waters stated he felt if it is to be a research project then there should be a scientific design that is agreed upon, and that they should not deviate from that. However, if the mission is a regulatory one, then be forthright and fess up.

Mr. Rhorer asked the group what the NPIP should do if a breeding flock has a positive environmental sample, but a negative bird culture. Mr. Rhorer stated that he felt that testing should be intensified.

The group agreed that testing should be intensified and resolved that the following should be submitted to the GCC for an interim change to 9 CFR 145.23 (d) "U.S. Sanitation Monitored" program for egg-type breeders.

Positive environments means the flock loses the "U.S. Sanitation Monitored" Classification until a negative bird

culture is found at an official laboratory within 5 days. The flock will be classified suspect. Cull chicks, and meconium will be sampled from suspect flocks for each hatch. At the discretion of the OSA, the bird sample can be sent to an authorized NPIP laboratory, if the laboratory turn around time would likely extent beyond the 5 day time period.

The following is a list of concerns relative to the PPP that the breeders would like addressed.

1. Is the Pennsylvania Pilot Project (PPP) a research project or a regulatory project. If it is a research project, then explain how it is not a regulatory function.

2. The PPP should be required to reconfirm their findings. If they cannot verify their findings, then they should be required to advise the producer.

3. SE does not have the same epidemiology as Pullorum-Typhoid and it should not be treated that way.

4. The PPP is a research project not a SE eradication program.

5. The samples collected from breeder chicks must be representative of the hatchery and breeding flock not the environment of the producer.

6. There has to be an end to the liability of the breeder at the hatchery.

7. The total effort made by the breeders is not just 3 drag swabs a month but the following:

   a. Meconium testing
   b. Cull chick monitoring
   c. Hatcher swabbing
   d. P-T serology every 90 days.
   e. Drag swabs every 2 weeks for pits, belts, fans, nest boxes, and slatted floors.

8. The breeder industry has never taken the attitude that it cannot deliver a SE clean chick.

Meeting adjourned 8:30 a.m.

DEKALB
Poultry Research, Inc.

Department of Veterinary Service

February 11, 1993

Mr. Andrew Rohrer
USDA-APHIS-VS
Room 770 Federal Building
6505 Belcrest Rd.
Hyattsville MD 20782

Dear Andy :

Enclosed is a summary of the presentation I made concerning SE at the Western Michigan Poultry Seminar in Holland MI on January 14. I hope this is what you were asking for to show what kinds of efforts the egg-type breeder industry is taking to reduce the possibility of SE contamination of our product.

Should you wish any further information, please let me know.

Sincerely,

Eric Gingerich DVM

Eric Gingerich, DVM
Director, Veterinary Services

cc: Gary Waters

3100 Sycamore Road • DeKalb, Illinois 60115 • Phone: 815-756-1100 • FAX: 815-758-3515

WESTERN MICHIGAN POULTRY SEMINAR
HOLLAND MICHIGAN
JANUARY 14, 1993

ERIC GINGERICH, DVM
DEKALB POULTRY RESEARCH, INC.

Salmonella enteritidis UPDATE

Salmonella enteritidis (SE)

The number of SE outbreaks associated with eggs in 1992 has increased over last year; 13 in all of 1991 compared to 17 thus far through October 1992. About 50 % of the breaks occurred in the months of June, July, and August indicating its strong correlation to warmer temperatures and time/temperature abuse of foods.

The majority of human outbreaks continues to occur in the Northeast states of New York, Pennsylvania, Massachusetts, Maryland, and Vermont. Breaks were also reported in Ohio, Indiana, California, Kansas, and Illinois. The egg production facilities implicated in trace-back investigations were found in Pennsylvania (5 of 11), Maryland (4 of 11), Kansas 1 of 11), and New York (1 of 11).

The following is a summary of the management practices DEKALB is using on our breeder farms and in our hatcheries to prevent SE infection and contamination of our product, day-old pullet chicks.

PART ONE - REDUCE SE EXPOSURE TO PULLET AND LAYER FLOCKS

1) Rodents - Rodents, especially mice, are considered the major transmitter and multiplier of SE to layer flocks. DEKALB is spending much time and money in waging war against these intruders using bait stations, live traps, tracking powder, devegetation of the house perimeter, cleanup of trash used for hiding sites, physically closing entry sites, etc.

2) People - Cover up and wash hands of people entering. Showering people and providing clothing is to be a standard practice at our hatcheries and as many breeder farms as possible in the future. Use disinfectant foot wash pans at each building entry. Utilize gates, locked doors, warning signs, etc. to prevent unwanted entry of people.

3) Reducing contamination from the last flock - We have stepped up our efforts in between flock sanitation using thorough dry cleaning, wet cleaning with high pressure/hot water/detergent, and followed by disinfection with disinfectant spray and thermally fogged disinfectant.

4) Egg handling materials - Only new or thoroughly cleaned and disinfected materials are utilized to avoid contamination.

5) Bird moving equipment and people - Much attention is given to equipment used to move pullets. The vehicle is inspected prior to entering the farm and is sent back for cleaning and disinfection if not satisfactory. The crews are provided footwear, clothing, and hand sanitation to avoid contamination.

6) Water - Weekly waterer cleaning and sanitation is performed. Chlorination of water to achieve 1 ppm chlorine at the end waterer is in the process of being started where not already in place.

7) Feed - In our program, we do not use any animal byproduct protein sources. We have considered using high levels of organic acid products, 0.4 to 0.5 %, in the feed which will kill Salmonellae in a feed in a 48 hour period. The risk of feed contamination in our locations however is not considered worth the expense.

PART TWO - INCREASING BIRD RESISTANCE TO INFECTION

1) Probiotics - At present we are using commercially available *Lactobacillus spp.* and *Streptococcus faecium* based products in growing and laying rations. We use similar products in the water to start chicks the first 7 days. Unfortunately, we do not have available the undefined, pathogen-free product used in Europe for competitive exclusion which has been shown to provide reduced colonization of *Salmonella spp.* after challenge.

   Use of antibiotics has been reduced since some research has shown that using antibiotics on a routine basis may actually increase the possibility of *Salmonella spp.* colonization.

2) SE bacterin - We are using the federally licensed SE bacterin in our breeder flocks which are in high risk areas according to the NPIP provisions. We realize that the use of bacterin is not a cure-all but only part of the overall program of SE risk reduction.

REDUCING SHELL BORNE CONTAMINATION

1) Egg collection and sanitation - Eggs are collected 3 to 4 times per day so that the surface can be decontaminated with disinfectant as soon after laying as possible. Also, the eggs will be stored at a lower temperature sooner to reduce bacterial multiplication. In commercial operations, prompt collection, washing, packaging (in in-line units), and storage at reduced temperature as soon after laying as possible will reduce internal egg and external shell bacterial multiplication.

2) Egg belt sanitation - Automatic disinfectant spraying systems for egg belts are being installed to reduce bacterial contamination.

3) Egg holding - Hatch eggs are held at 55 to 60 °F to both control bacterial multiplication but also to prevent embryonic development. The egg holding room is cleaned and sanitized on a routine basis.

MONITORING PROGRAM

1) Environment by culture - Monthly, each pullet house and twice monthly, each layer house. Drag swabs on the floors and swabbing of wall, fans, and egg belts are performed.

2) Serology - Unfortunately, there is not a good, SE specific test available at present. The pullorum-typhoid test is used for qualifying parent flocks at 16 to 24 weeks of age, 300 birds per flock.

3) Cull chicks - Cull chicks from each breeder flock are submitted to the lab each week for culture.

4) Meconium - Meconium samples representing each breeder flock are submitted for culture once each month.

5) Hatchers - Swabs from hatchers are submitted each month for culture.

6) Clean houses - Swabs from floors, walls, egg belts, fans, etc. are sent for culture to determine if houses are negative for *Salmonella spp.*

The same or similar practices as given above can be used by the commercial producer to reduce their risk of bird infection and egg transmission of SE to their product; the table egg. A good source of information for commercial egg producers concerning SE risk reduction programs is the publication from the United States Animal Health Association (USAHA); Good Management Practices for Salmonella Risk Reduction in the Production of Table Eggs. It is available by contacting USDA SE Control Program, 6525 Belcrest Rd., Hyattsville MD 20782 or Minnesota Extension Service, Univ. of Minnesota.

Other developments in the egg and food service industries designed to aid in reducing the SE human infection rate are as follows :

1) SE Pilot project - This project involves several Pennsylvania egg producers who have volunteered to follow management and monitoring practices recommended by the pilot project committee. The purpose of the project is to identify significant sources of infection and practices which reduce SE egg contamination risk.

2) Refrigeration law - A Federal law requiring 45 °F temperature storage after packaging of shell eggs is due to take effect in January of 1994. Several states have already instituted such a law in their states.

3) Pasteurized egg products - Institutions are increasing their use of pasteurized egg products. An increase in availability of pasteurized egg products for home consumers is also helpful for use where raw eggs have been called for. Recipe writers now are beginning to replace raw eggs with pasteurized eggs in the recipe.

4) Improved food handling - The publicity given food-borne illnesses will hopefully increase awareness of food handling practices and their role in food related illnesses.

SE Pilot Project
Results of Testing for SE Complexes

Number	Environment	Mice	Nest Run	Blood Spot
11-1	N	NS	ND	ND
11-2	N	NS	ND	ND
13-1	P(8,23)*	NS (med)	P (?)	ND
13-2	P(8,23)	Low	ND	ND
13-3	P(8,23,3)	P(8)*	P(8)*	P(8)*
13-3	P(8,23)	Low	ND	ND
13-4	P(8)	N (med)	N	ND
14-1	P(8)	P(8)	ND	ND
14-2	P(23)	P(8)	ND	ND
20-1	P(3)	P(34)	N	ND
20-1	P(3)	?	?	?
20-2	P(3)	P(34)	N	ND
20-2	P(3,34)	P(3,34)	ND	ND
23-1	P(8)	N(NS)	N	P(8)
23-2	P(8,23,2)	N(NS)	P(8)	P(?)
24-1	P(28)	P(28)	N	ND
24-2	P(28,13A)	P(13A,28)	N	ND
26-3	P(8,23)	P(8)	N	ND
26-4	P(?)	P(8)	N	ND
26-10	P(8,23,13A)	P(23,8)	P(8)	ND
27-1	P(?)	P(3)	ND	N
27-2	P(3,8)	P(3,8,23,24)	ND	N
27-3 (Old)	P(3,8)	P(3,8)	ND	N
27-3 (New)	P(3,8,23)	P(3)	ND	N
27-4	P(3)	P(3,23,34)	ND	N
27-5	P(3,8)	P(3,8,23)	N	N
27-6	P(3,34)	P(3,8)	P(8)	N
27-7	P(3)	P(3)	N	N
34-1	N	N	ND	ND
34-2	N	N	ND	ND
38-1	N	N	ND	ND
38-2	N	N	ND	ND
38-3	P(8)	P(8)	ND	ND
39-1	P(8,23)	N (NS)	N	ND
39-2	N	N (NS)	ND	ND

* ( ) phage type
NS - Not Seen
N - Negative
ND - Not Done
P - Positive

Through December 15, 1992

SE Pilot Project
Results of Testing for SE
Single Houses

Number	Environment	Mice	Nest Run	Blood Sp
12-1	P(8,23)*	P(23)*	P(8)*	ND
15-1	P(23,8)	P(8,23)	N	N
17-1	N	ND	ND	ND
18-1	N	P(23)	ND	ND
19-1	N	N	ND	ND
25-1	N	NS	ND	ND
28-1	N	P(13)	ND	ND
28-1	P(13,23)	P(13,23)	?	ND
30-2	P(8,23,2)	ND	P(8)	ND
31-1	N	NS	ND	ND
35-1	P(13,23,13A)	NS	P(13,8)	P(13)
36-1	N	ND	ND	ND
37-1	N	N	ND	ND
40-1	P(13,23)	P(13,23)	N	ND
41-1	P(3,34)	P(3)	?	ND
42-1	N	ND	ND	ND
45-1	P(23,13A)	P(23,13A)	N	N
46-1	P(23,13A)	P(13A)	P(13A,23)	ND
47-1	N	ND	ND	ND
48-1	N	N	ND	ND
49-1	N	ND	ND	ND
22-1 (Old)	P(8)	P(8)	P(?)	P(8)
22-1 (New)	N	NS	?	?
29-1 (Old)	P(8,23)	NS	P(8)	ND
29-1 (New)	P(8,23)	N(NS)	ND	ND
16-1 (Old)	P(8,13,23)	P(8)	N	ND
16-1 (New)	P(8)	P(8,13)	P(8)	ND

* ( ) phage type N - Negative P - Positive
NS - Not Seen ND - Not Done

Through December 15, 1992

SE Pilot Project
Results from Houses Where Eggs were Collected
(up to February 11, 1993)

(number egg pools positive/ number egg pools submitted)

House Number	Nest Run	Blood Spot	Env.	Mice
12-1	6/600	-	+	+
13-1	1/500	-	+	N
13-3	4/799	1/46	+	+
16-1 (O)	1/1000	-	+	+
16-1 (N)	1/300	-	+	+
22-1	3/1000	1/159	+	+
23-1	0/2400	4/193	+	-
23-2	4/2200	2/162	+	-
26-10	14/1400	-	+	+
27-6	1/1600	0/462	+	+
29-1	2/100	-	+	ND
30-2	1/800	-	+	+
35-1	5/1100	2/83	+	NS
41-1	1/600	-	+	+
46-1	40/1000	1/53	+	+
	84/145,000	11/11,580		

House Number	Nest Run	Blood Spot	Env.	Mice
13-4	0/400	-	+	-
15-1	0/800	0/26	+	+
20-1	0/400	-	+	+
20-2	0/300	-	+	+
24-1	0/400	-	+	+
24-2	0/700	-	+	+
26-3	0/1190	-	+	+
26-4	0/400	-	+	+
27-1	-	0/476	+	+
27-2	0/1400	0/403	+	+
27-3 (O)	-	0/34	+	+
27-3 (N)	-	0/196	+	+
27-4	0/1500	0/446	+	+
27-5	0/1400	0/322	+	+
27-7	0/1500	0/466	+	+
39-1	0/400	-	+	-
41-1	0/400	-	+	+
45-1	0/500	0/111	+	+
	0/116,900	0/24,800		

			% Positive	
			Nest Run	Blood Spot
	84/145,000	11/11,580	.00058	.00095
	0/116,900	0/24,800	---	---
Totals	84/261,900	11/35,380	.00032	.00031

SE Pilot Project
Results of Testing for SE

House No.	Environment	Mice	Eggs Nest-Run	Eggs Blood Spot
17-1	-	? NM	ND	ND
11-2	-	? NM	ND	ND
27-2	-	? NM	ND	ND
49-1	-	ND	ND	ND
48-1	-	-	ND	ND
47-1	-	? NM	ND	ND
42-1	-	ND	ND	ND
39-2	-	-	ND	ND
38-2	-	-	ND	ND
38-1	-	-	ND	ND
37-1	-	-	ND	ND
36-1	-	ND	ND	ND
34-2	-	-	ND	ND
34-1	-	-	ND	ND
31-1	-	? NM	ND	ND
25-1	-	NM	ND	ND
21-1	-	-	ND	ND
19-1	-	-	ND	ND
11-1	-	NM	ND	ND

ND - not done
NM - not many
- Negative

Through December 15, 1992

SE Pilot Project
Results of Testing for SE

House No.	Environment	Mice	Eggs	
			Nest-Run	Blood Spot
29-1	+(8,23)	-Low	ND	ND
13-3	+(8)	? Low	ND	ND
13-2	+(8,23)	- Low	ND	ND
28-1 (new)	?	+(13,23)	ND	ND
14-1	+(8,23) *	+(8) *	ND	ND
14-2	+(23)	+(8)	ND	ND
38-3	+(8)	+(8)	ND	ND
20-2	+(3,34)	+(3,34)	ND	ND
28-1	-	+(13)	ND	ND
18-1	-	+(23)	ND	ND

* ( ) phage type
\+ Positive

ND - not done
\- Negative

Through December 15, 1992

SE Pilot Project
Results of Testing for SE

House No.	Environment	Mice	Eggs Nest-Run	Eggs Bloods
15-1	+(23,8) *	+(23,8) *	-(8) **	-(3) **
16-1	+(13,8,23)	+(8)	-(4)	ND
24-1	+(28)	+(28)	-(4)	ND cat feces +
24-2	+(28)	+(28,23,13A)	-(6)	ND cat feces +
26-3	+(8,23)	+(8)	-(10)	ND
27-1	+(?)	+(3)	ND	-(17)
26-4	+(?)	+(8)	-(4)	ND
27-2	+(3,8)	+(3,8,23)	-(11)	-(20)
27-3	+(3,8)	+(3,8)	ND	-(5)
27-3	+(3,8,23)	+(3)	ND	-(7)
27-4	+(3)	+(3,23,34)	-(12)	-(23)
27-5	+(3,8)	+(3,8,23)	-(12)	-(22)
27-7	+(3,8)	+(3)	-(13)	-(23)
39-1	+(23,8)	-	-(4)	ND
40-1	+(13,23)	+(13,23)	-(4)	ND
45-1	+(23,13A)	+13A,23)	-(4)	-(8)
20-2	+(3)	+(34)	-(4)	ND
20-1	+(3)	+(34)	-(4)	ND
13-4	+(8)	-	-(4)	ND

* ( ) phage type
\+ Positive

ND - not done
\- Negative

** ( ) No. of Collections

Through December 15, 1992

SE Pilot Project
Results of Testing for SE

House No.	Envir.	Mice	Eggs NR	Eggs BS
22-1	+(8)*	+(8) *	+(?)[8] **	+(8)[12] *
23-1	+(8)	-	-[19]	+(8)[11]
23-2	+(8,23,2)	-	+(8)[8]	+(?)[13]
26-10	+(8,23,13A)	+(23,8)	+(28,8,23)[11]	ND
27-6	+(3,34)	+(3,8)	+(8)[13]	-[23]
29-1	+(8,23)	-	+(8)[1]	ND
30-2	+(8,23,2)	ND	+(8)[8]	ND
35-1	+(13,23,13A)	-	+(13,8)[8]	+(13)[9]
46-1	+(13A,23)	+(13A-outside)	+(13A,23)[7]	ND
16-1	+(8)	+(8,13)	+(8)[3]	ND
13-3	+(8,23,3)	+(8)	+(8)[8]	+(8)[5]
13-1	+(?)	-	+(?)[5]	ND
12-1	+(8,23)	+(23)	+(8)[6]	ND
41-1	+(3,34)	+(3)	? [1]	ND

* ( ) phage type
** [ ] no. of collections
ND - not done
NR - Nest Run
BS - Blood Spot

SE Pilot Project - Pennsylvania
Flow Charts for Individual Houses

House Number	Samples Collected	Months of Year/ Weeks of Egg Cycle											
PA22-1		9 / 32		10 / 36		11 / 40		12 / 44					
	Env		P										
(Y)	Mice		P										
	NR	N	N	N		N	(P)	(P)					
	BS			N	N	N	(P)	N	N	N	N		

House Number	Samples Collected	Months of Year/ Weeks of Egg Cycle											
PA23-1		7 / 20		8 / 24		9 / 28		10 / 32		11 / 36		12 / 40	
	Env	N	(P)	(P)	(P)	(P)	N						
(Y)	Mice			N	N								
	NR		N	N	N	N	N	N		N	N		
	BS			N	(P)	N	N	(P)	N	NN	N	N	

House Number	Samples Collected	Months of Year/ Weeks of Egg Cycle											
PA23-2		6 / 16		7 / 20		8 / 24		9 / 28		10 / 32		11 / 36	12 / 40
	Env		N	(P)	(P)	(P)	(P)	(P)	(P)	(P)			
(Y)	Mice					N							
	NR					(P)	(P)	N	N	N	N	N	
	BS					N	N	N	N	N	N	N	N

House Number	Samples Collected	Months of Year/ Weeks of Egg Cycle											
PA26-10		6 / 48		7 / 52		8 / 56		9 / 60		10 / 64		11 / 68	12 / 72
	Env	(P)				(P)						(P)	
(O)	Mice	(P)								(P)	(P)		
	NR	N		N	N	(P)	N	(P)	(P)			(P)	(P) N
	BS												

House Number	Samples Collected	Months of Year/ Weeks of Egg Cycle													
PA27-6		6 / 24		7 / 28		8 / 32		9 / 36		10 / 40		11 / 44		12 / 48	
	Env		(P)							(P)					
(Y)	Mice		(P)									N			
	NR		N	(P)	N	N	N	N	N	N		N	N	N	
	BS	N	N	N	N	N	N	N	N	N	N	N	N	N	N

NR - Nest Run BS - Bloodspot N - Negative P - Positive
Y - Young Flock O - Old Flock

House Number PA46-1 — Samples Collected — Months of Year/ Weeks of Egg Cycle

	9 / 90	10 / 94	11 / 98	12 / 102
Env	(P)			
(O) Mice		N N N (P)	N N	
NR	(P)	(P)	(P)(P)	(P)(P)
BS				

9/21 -> 10/6 -> 10/21 -> 11/4 -> 11/18 -> 12/2 -> 12/16

House Number PA16-1 — Samples Collected — Months of Year/ Weeks of Egg Cycle

	8 / 16	9 / 20	10 / 24	11 / 28	12 / 32
Env	P	P			N
(Y) Mice		(P) (P) N	(P)		(P) N
NR				(P) N	N
BS					

House Number PA13-3 — Samples Collected — Months of Year/ Weeks of Egg Cycle

	4 / 80	5 / 84	6 / 88	7 / 92	8 / 96	9 / 100
Env	(P)				(P)	
(O) Mice				N		(P)
NR		N	N N N	N (P)	N (P)	
BS		N	N (P)	N N		

House Number PA13-1 — Samples Collected — Months of Year/ Weeks of Egg Cycle

	4 / 33	5 / 37	6 / 41	7 / 45	8 / 49	9 / 53	10 / 57	11 / 61	12 / 65
Env	N					(P)			
(Y) Mice						N			
NR							(P) N	N N	N
BS									

NR - Nest Run BS - Bloodspot N - Negative P - Positive
Y - Young Flock O - Old Flock

SE Pilot Project - Pennsylvania
Flow Charts for Individual Houses

use mber	Samples Collected	Months of Year/ Weeks of Egg Cycle	6 / 69	7 / 73
29-1				
		Env	__ __ (P)__	__ __ __ __
(O)		Mice	__ __ -- __	__ __ __ __
		NR	__ __ (P)__	__ __ __ __
		BS	__ __ __ __	__ __ __ __

use mber	Samples Collected	Months of Year/ Weeks of Egg Cycle	6 / 56	7 / 60	8 / 64	9 / 68	10 / 72	11 / 76	12 / 78
30-2									
		Env	__ (P)__ __	__ __ __ __	__ __ __ __	__ (P)__ __	__ __ __ __	__ __ __ __	__ __ __ __
(O)		Mice	__ ND __ __	__ ND __ __	__ ND __ __	__ ND __ __	__ ND __ __	__ ND __ __	__ ND __ __
		NR	__ __ __ __	__ _N __ __	__ _N __ __	__ _N (P)__	__ __ __ __	__ _N _N __	__ _N _N __
		BS	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __

use mber	Samples Collected	Months of Year/ Weeks of Egg Cycle	7 / 24	8 / 28	9 / 32	10 / 36	11 / 40	12 / 44	
35-1									
		Env	__ (P)__ __	__ __ __ __	__ __ __ __	__ (P)__ __	__ __ __ __	__ __ __ __	
(Y)		Mice	__ NS __ __	__ NS __ __	__ NS __ __	__ NS __ __	__ NS __ __	__ NS __ __	
		NR	__ __ __ (P)	__ (P)_N __	__ _N _N __	_N (P)__ __	__ __ __ __	_N __ __ __	8/11 -> 10/16
		BS	__ __ __ __	__ __ __ __	__ _N _N __	_N _N _N (P)	_N _N _N __	__ __ __ __	

use mber	Samples Collected	Months of Year/ Weeks of Egg Cycle	4 / 60	5 / 64	6 / 68	7 / 72	8 / 78	9 / 82	10 / 86	11 / 90	12 / 94
12-1											
		Env	__ __ (P)__	__ __ __ __	__ __ __ __	__ __ __ __	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _
(O)		Mice	__ __ (P)__	__ __ __ __	__ __ __ __	__ (P)__ __	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _
		NR	__ __ __ __	__ (P)(P)__	__ _N _N __	(P)(P)__ __	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _
		BS	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _	_ _ _ _

use mber	Samples Collected	Months of Year/ Weeks of Egg Cycle	8 / 16	9 / 20	10 / 24	11 / 28	12 / 32
41-1							
		Env	__ _P __ __	__ __ __ __	__ __ __ __	__ _P __ __	__ _? __ __
(Y)		Mice	__ _P __ __	__ __ __ __	__ __ __ __	__ NS __ __	__ __ __ __
		NR	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	__ _? __ __
		BS	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __	__ __ __ __

- Nest Run BS - Bloodspot N - Negative P - Positive

United States Department of Agriculture
Animal and Plant Health Inspection Service
Veterinary Services *Hyattsville, Maryland 20782*
Emergency Programs *Telephone: (301) 436-8073*

February 23, 1993

SUBJECT: Update on Avian Influenza (AI) Surveillance

TO: All Regions

Northern Region:

Maryland - Current Status:

On January 26, 1993, antibodies to subtype, H_5N_2, AI were detected by NVSL in samples received from a backyard chicken flock located in Goldsboro, Maryland (Caroline County). This flock was quarantined immediately and depopulated on January 28, 1993.

On January 25, 1993, both Departments of Agriculture in Maryland and Delaware suspended the sale of live poultry at all livestock auction markets in their respective States.

On January 29, 1993, the Delmarva Poultry Industry, Inc., Georgetown, Delaware, issued a press release which outlined information about the industry, biosecurity, the flock which was serologically positive for H_5N_2 AI, and the area in which the flock was located. This flock was depopulated by Maryland Department of Agriculture's personnel and surveillance activities were increased on the entire Peninsula. In addition, flocks within a 5-mile radius of the serologically positive flock were sampled. The release also outlines the biosecurity and other precautions being taken by animal health officials and the industry.

A meeting was held on the Eastern Shore of Maryland on January 26 and again on February 4, 1993, to discuss the status of activities conducted to date and to evaluate future program needs. Drs. Park, Virts, Olson, and Knowles from the State of Maryland, and Dr. Groocock, Emergency Programs, and Dr. Trock, Regional Poultry Epidemiologist from Veterinary Services attended. Personnel and other resource needs were discussed.

On February 8, 1993, the State Veterinarians of Delaware, Maryland, and Virginia sent information on the current restrictions on poultry shipped into or from the New York or New Jersey live-bird markets to all independent poultry producers and haulers on the Delmarva Peninsula.

Veterinary Services has detailed personnel to Delmarva to assist in sampling backyard flocks within a 10-mile radius of the serologically positive flock and to investigate and sample flocks reported by flock owners. These individuals were given orientation and biosecurity training soon after arrival.

On February 18, 1993, NVSL reported that another small backyard on the Eastern Shore of Maryland had H_5N_2 antibodies on samples collected on February 13, 1993. This flock was placed under State quarantine on February 20, 1993, and will be depopulated on February 24, 1993, by Maryland personnel.

New Jersey - Current Status:

The New Jersey live-poultry market that was implicated with the affected turkey premises in Montgomery County, Pennsylvania, has been tested and found AI negative. All 26 live-poultry markets and the 3 auction markets in New Jersey have now been surveyed and tested.

On January 21, 1993, NVSL isolated AI, subtype H_5N_2, virus from samples collected at a live-poultry market in West New York, New Jersey. By January 24, 1993, this market had been depopulated by controlled slaughter and by January 25, 1993, cleaning and disinfection procedures had been finished. On January 25, 1993, NVSL again isolated AI, subtype H_5N_2, virus from samples collected at another live-poultry market in Camden, New Jersey. This market was also depopulated by controlled slaughter. On January 28, NVSL isolated 2 more AI, subtype H_5N_2, viruses from samples collected at two live-poultry markets in Montville and Passaic, New Jersey.

On February 1, 1993, NVSL isolated another AI virus, subtype H_5N_2, from samples collected at a live-poultry market located in Newark, New Jersey. On February 3, 1993, NVSL again reported that another virus had been isolated from a backyard flock in Clayton, New Jersey. It has been reported that this flock consists of approximately 450 birds and includes pet birds and several species of poultry. This flock was depopulated on February 11, 1993. On February 18, NVSL reported that 6 additional virus isolations of H_5N_2 were made from samples taken at depopulation. Five of these isolates were from chickens and one was from a duck. Free-flying water fowl, including Canadian geese and mallard ducks, had been observed feeding with the domestic poultry. Some of these free-flying water fowl will be sampled by State and Federal wildlife personnel to determine if they might be the source of the virus.

Also, on February 18, 1993, NVSL reported that another backyard flock located in the area of the backyard flock from which the H_5N_2 AI virus was isolated was serologically positive for H_5N_2.

The virus has now been found on the premises of 5 live-poultry markets and one backyard flock in New Jersey. In addition, a small backyard flock near the positive backyard flock was serologically positive for H_5N_2.

The ducks in this flock will be removed by controlled slaughter. The remaining birds will be sampled by tracheal and cloacal swabs as well as by serology between 15 and 30 days until two consecutive tests by virus isolation are negative.

New York - Current Status:

All of the live-poultry markets in New York City (38) were surveyed and sampled from January 6-8, 1993. On January 18, NVSL reported the isolation of AI, subtype H_5N_2, virus from chicken samples collected at a live-poultry market in the Bronx, New York. Chickens were inoculated with the virus on January 19, 1993.

On January 20, 1993, NVSL reported making 7 isolations of AI, subtype H_5N_2, virus from chicken samples collected at live-poultry markets in the Jamaica, New York City area. On January 23, NVSL again isolated another AI, subtype H_5N_2, virus from chicken samples collected at another live-poultry market also in Jamaica, New York. A total of 9 isolates have been made from 8 live-poultry markets in New York. Live-bird markets which were positive on the original sampling are being retested. All poultry auction markets will also be included in this round of sampling.

During the week of February 7, 1993, New York personnel sampled 11 live-poultry markets in New York City. Eight of these markets had been virus positive (H_5N_2) during the initial sampling on January 6. Three of these markets were newly discovered and this was their first sampling.

On February 18, 1993, NVSL reported that H_5N_2 AI viruses had been again isolated from birds in 2 live-poultry markets in New York City that had been depopulated by controlled slaughter when H_5N_2 viruses were previously isolated.

Pennsylvania - Current Status:

On January 2, 1993, NVSL confirmed 25 of 30 turkey serum samples as sero-positive for AI, subtype H_5N_2. The samples were from a turkey flock located near Harleysville, Pennsylvania (Montgomery County). The premises remained under quarantine and flock surveillance continued. Three associated flocks of young turkeys (approximately 32,000 birds at 5-8 weeks old) were depopulated during January 11-13 by the State poultry industry because of the lack of confinement space on the premises. The affected premises remained under quarantine until the environmental samples were tested negative. Surveillance of premises within a 3-mile radius have tested negative. Again, no AI virus has been isolated from the turkeys in Pennsylvania. Since the turkeys and the premises remained negative for virus isolation, the remaining turkeys were sent to slaughter on February 5, 1993.

All live-bird markets in Philadelphia (4) were surveyed and sampled during January 7-8, 1993. On January 13, 1993, NVSL isolated AI, subtype H_5N_2, virus from samples collected at a live-poultry market in Philadelphia, Pennsylvania. The virus was recovered from chicken tracheal swabs and inoculated into chickens January 13 and 14. There were no deaths or pathological lesions in the laboratory chickens. The infected chickens were traced to Roots Poultry Auction in Manheim, Pennsylvania (Lancaster County). On January 21, 1993, NVSL reported the sequencing of the AI, subtype H_5N_2, virus isolated from this Philadelphia live-poultry market as the following:
the H_5N_2 virus isolates: 1) to date, are not pathogenic to chickens, 2) are not the same as the virus that caused the 1983-84 AI outbreak in Pennsylvania, 3) are similar in sequencing characteristics to the subtype H_5N_1 which caused the 1991-92

outbreak in the United Kingdom, and 4) are potentially pathogenic to chickens.

A poultry show was held in Harrisburg, Pennsylvania, January 9-14, 1993. State livestock inspectors at the show found one exhibitor with 3 sick chickens. Blood and tracheal samples were collected from the 3 birds and submitted to the State Veterinary Diagnostic Laboratory, where all were positive for AI on the AGID test. The owner was contacted about the results, and additional samples were collected and forwarded to NVSL, Ames, Iowa. On January 15, NVSL confirmed the samples as positive for AI, subtype H_5N_2, on serology; virus isolation efforts have been negative. The premises were located at Oxford, Pennsylvania (Chester County), and were placed under State quarantine. Additional samples were collected from birds at the show on January 15. As a result, 5 of 30 samples were positive on serology for AI, subtype H_5N_2. All 5 positive samples belonged to this same owner in Chester County. Subsequently, after virus isolation attempts were negative, the State released the quarantine.

The Pennsylvania Department of Agriculture has issued restrictions that temporarily suspends poultry exhibitions and the transportation of live birds to markets and auctions. These restrictions were ordered after routine surveillance led to the discovery of AI virus in chickens at the live-poultry market in Philadelphia.

New England Area - Current Status:

The live-poultry markets in Rhode Island (2) have been surveyed and tested. Active surveillance of live-poultry markets in the Boston area (5) and in Connecticut (5) continues. Sample test results have been negative at NVSL.

By January 23, 1993, poultry in all live-poultry markets, and on dealer's premises in New England, had been surveyed and tested. Sample test results to date have been negative.

Virginia:

On February 2, 1993, the State of Virginia imposed a limited embargo prohibiting the movement of live poultry to or from the States of Pennsylvania, New Jersey, and New York for exhibition, and for live birds sold for exhibition or to live-bird markets.

West Virginia - Current Status:

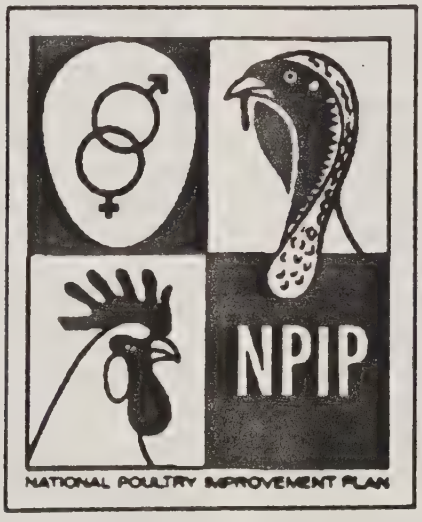
On January 25, 1993, the West Virginia Department of Agriculture issued an order prohibiting poultry exhibitions and the sale of poultry at livestock markets in the State. This action was taken to prevent the spread of AI into the State's poultry population. There has been no evidence of AI in West Virginia.

Southeast Region:

Florida - Current Status:

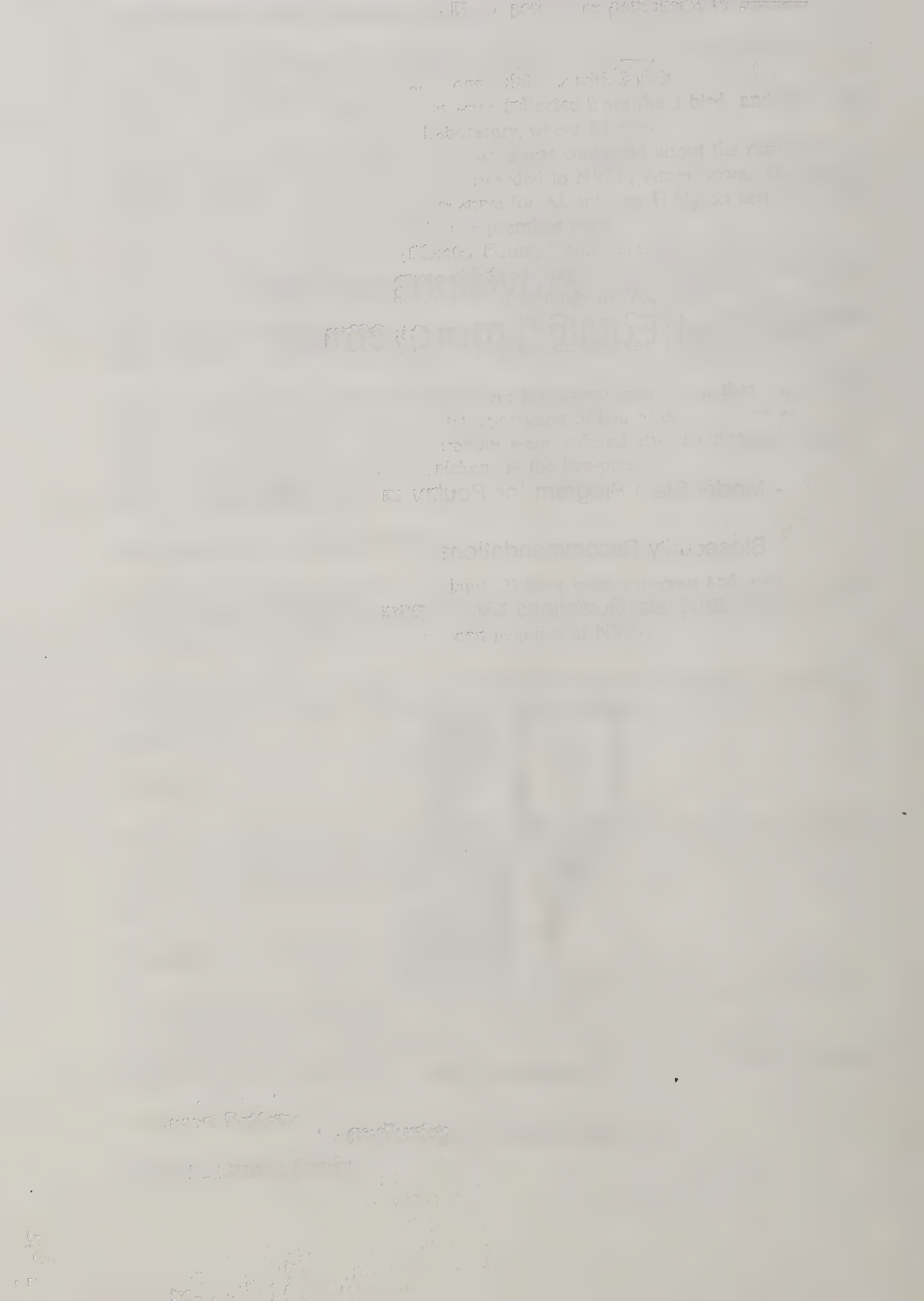
Adjunct Provisions of the National Poultry Improvement Plan

- Model State Program for Poultry Disease Prevention
- Biosecurity Recommendations
- Model State Guidelines on Response to a Disease Alert



December 1989

U.S. Department of Agriculture



Evaluation of the biosecurity needs of the present day poultry industry by the Avian Influenza Task Force Technical Consultants, a group of Avian influenza experts convened by the National Emergency Field Operations Staff, Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture (USDA), resulted in this group's recommendations for prevention, control, and eradication of avian influenza. A summary of these recommendations, which has been approved by the USDA, follows:

"All segments of the poultry industry must look to the future when planning for the prevention, control, and eradication of serious disease problems such as avian influenza. The planning strategy should not include Federal Funding as experienced during the velogenic viscerotropic Newcastle disease(VVND) and avian influenza (AI) outbreaks during the past 12 years. (1972-1984)

"Nineteen hundred eighty-four (1984) finds the U.S. broiler, egg, and turkey industries with ineffective sanitary and security defenses against the introduction and spread of avian influenza and certain other industry disruptive diseases. This lack of sanitation and security readiness has come about as a result of changing diseases control strategies over the past few decades. Simply stated, the more our industries have embraced vaccination and medication as our Nation's primary poultry disease control strategy, the less reliance they have placed on sanitation and security and the more vulnerable they have become to the rapid dissemination of some disruptive diseases such as AI.

"Future disease prevention, control, and eradication strategies must be based on: sanitation; isolation rearing; early detection; elimination of affected flock(s) without spread; and premises decontamination and adequate surveillance. Program funding must be provided by industry and their respective States."

MODEL STATE PROGRAM FOR POULTRY DISEASE PREVENTION

During the 1970's and 1980's, two devastating diseases struck the poultry industry in the United States, namely exotic Newcastle disease and highly pathogenic avian influenza (H5N2). Approximately 30 million birds were destroyed in an effort to eradicate these two diseases. The effort cost the Federal Government nearly 120 million dollars, with many additional millions being spent by States. Loss of income by the affected poultry men cost additional millions of dollars.

Various industry organizations and committees requested and cooperated in developing guidelines which could be used by the States to help prevent a recurrence of these or other industry disruptive diseases. This Model State Program for Poultry Disease Prevention is the result of hundreds of hours

of study, consultation, and deliberation by industry, research, State and Federal personnel. It is presented as a guide for States in developing or expanding their disease prevention programs.

1. **PARTICIPATION**. Any State cooperating with the Department through a Memorandum of Understanding in the Administration of the National Poultry Improvement Plan may apply to the Service to be recognized as either a "U.S. Poultry Disease Monitored State" or as a "U.S. Poultry Disease Monitored and Controlled State." Such recognition is dependent upon the requesting States developing a program for the prevention of Reportable Diseases, which are defined in Paragraph 2. Each State is responsible for providing evidence the Service determines is necessary for this recognition. Discontinuation of any of the conditions or procedures described in this program--or failure to provide evidence for a determination of compliance, --shall be grounds for the Service to revoke a State's recognition as either a "U.S. Poultry Disease Monitored State" or as a "U.S. Poultry Disease Monitored and Controlled State." This action shall not be taken until the Service has investigated and verified the discontinuation or failure, and until the Official State Agency has been given an opportunity for a hearing.

2. **DEFINITIONS**. The terms used in this subpart are defined as follows, whether used in the singular or plural form.

DIAGNOSTIC LABORATORY: any laboratory capable of making definitive diagnoses or receiving definitive diagnoses.

DISEASES:

a. **Action Disease**: Diseases designated by the State for immediate action to eradicate or control.

b. **Emergency Disease**: Those diseases for which State/Federal authorities exist for eradication or control; i.e., velogenic viscerotropic Newcastle disease (VVND), highly pathogenic avian influenza, ornithosis.

c. **Monitored Diseases**: All avian influenzas other than highly pathogenic avian influenza and pathogenic Newcastle disease other than VVND.

d. **Reportable Diseases**: Diseases that are industry disruptive, of which the official State poultry health authority should be knowledgeable, and are listed in paragraph 4.A of this program.

EPIDEMIOLOGICALLY ASSOCIATED. Poultry, equipment, personnel, supplies, or any article exposed or possibly contaminated by a flock or premises during a period when the flock or premises was a probable source of infection.

HIGHLY PATHOGENIC AVIAN INFLUENZA. Any influenza virus resulting in the death, within 8 days, of at least 6 out of 8 healthy susceptible chickens (or at least a 75 percent mortality in larger samples), 4-8 weeks old, inoculated by the intramuscular, intravenous, or caudal airsac route with

bacteria-free allantoic or cell culture fluids.

IMPORT. To bring poultry and poultry products into a State from another State.

OFFICIAL STATE POULTRY HEALTH AUTHORITY. The poultry health board, agency, or industry representative group authorized by the Official State Agency to set policy and make decisions concerning poultry health matters within a particular State.

PARTICIPATING STATE. A State the Service has classified as a "U.S. Poultry Disease Monitored State" or as a "U.S. Poultry Disease Monitored and Controlled State," and that is in compliance with the provisions of this section.

PRODUCTS. As used in this section only, "products" refers to all products and by-products originating or derived from avian species.

QUARANTINE. Action taken by a State to prevent the spread of Action Diseases through the movement of poultry, equipment, vehicles, people, and other articles.

SERVICE. The Animal and Plant Health Inspection Service, Veterinary Services, of the United States Department of Agriculture.

UNPROCESSED PRODUCTS. Products that have not been sanitized, packaged, treated, or subjected to other manufacturing procedures that eliminated the risk of spreading Monitored Diseases.

3. POULTRY DISEASE PREVENTION: RECOGNITION OF STATES.
After a State has entered into this program, it may request the Service to evaluate its compliance with the criteria contained in paragraphs 4 through 8. Based on the degree of compliance with these criteria, the Service may recognize the State as having met the requirements of (a) or (b) below:

(a). **U.S. POULTRY DISEASE MONITORED STATE.** A State may earn this status when it has been determined by the Service that it is in compliance with the:

(i) Required Authorities, paragraph 4(A);
(ii) Required Capabilities, paragraph 5(A);
(iii) Required Monitoring and Surveillance, paragraph 6(A);

(iv) Reporting of Disease, paragraph 7; and
(v) Control of movement of poultry and poultry products, paragraph 8.

(b) **U.S. POULTRY DISEASE MONITORED AND CONTROLLED STATE.** A State may earn this status when it has been determined by the Service that it is in compliance with the requirements set forth in the following:

(i) Required Authorities, paragraph 4(A) & (B);
(ii) Required Capabilities, paragraph 5(A) & (B);
(iii) Required Monitoring and Surveillance, paragraph 6(A) & (B);
(iv) Reporting of Disease,

paragraph 7; and

(v) Control of movement of poultry and poultry products, paragraph 8.

4. AUTHORITIES FOR POULTRY DISEASE PREVENTION PROGRAM.

A. In order for a State to be recognized by the Service as participating in either one of the programs specified in paragraph 3, it must have the following basic authorities, laws, regulations, or rules to:

(a) Require all diagnostic laboratories within the State to report to the Official State Poultry Health Authority all cases of:

(i) highly pathogenic avian influenza

(ii) velogenic Newcastle disease

(iii) ornithosis

(iv) pullorum and fowl typhoid

(b) Quarantine any flock affected by Emergency and Action Diseases.

(c) Control movement of all avian species, their containers, and their products located within a quarantined premises or area.

(d) To investigate reported disease outbreaks and to take diagnostic specimens.

(e) To require the cleaning and disinfection of live-haul conveyances, crates, and equipment, as determined by the Official State Poultry Health Authority to be necessary to Prevent the spread of a poultry disease.

(f) Require compliance with the intrastate and interstate poultry and product movement requirements specified in paragraph 8.

B. In order for a State to be recognized by the Service as participating in the U.S. Poultry Disease Monitored and Controlled Program, it must have the following additional authorities, laws, regulations, or rules to:

(a) Provide for an acceptable and effective dead-bird disposal regulation.

(b) Seize and dispose of flocks affected by or exposed to Emergency and Action Diseases, when necessary.

(c) Require cleaning and disinfecting of premises an equipment associated with flocks infected with Emergency and Action Diseases before restocking.

(d) Place import restrictions on poultry and poultry products which may pose a disease threat to the State poultry industry.

5. CAPABILITIES AND FACILITIES FOR POULTRY DISEASE PREVENTION PROGRAM.

A. In or for a State to be recognized by the Service as participating in either of the programs specified in paragraph 3, it must have the following capabilities and/or facilities to control Reportable Diseases:

(a) An in-State laboratory system, or access to an out-of-State laboratory system, that is capable of performing all of the laboratory services required by the provisions of this section.

(b) Field personnel to investigate, take diagnostic specimens, and quarantine when disease outbreaks are suspected or confirmed.

(c) The ability to compile and analyze poultry disease reports

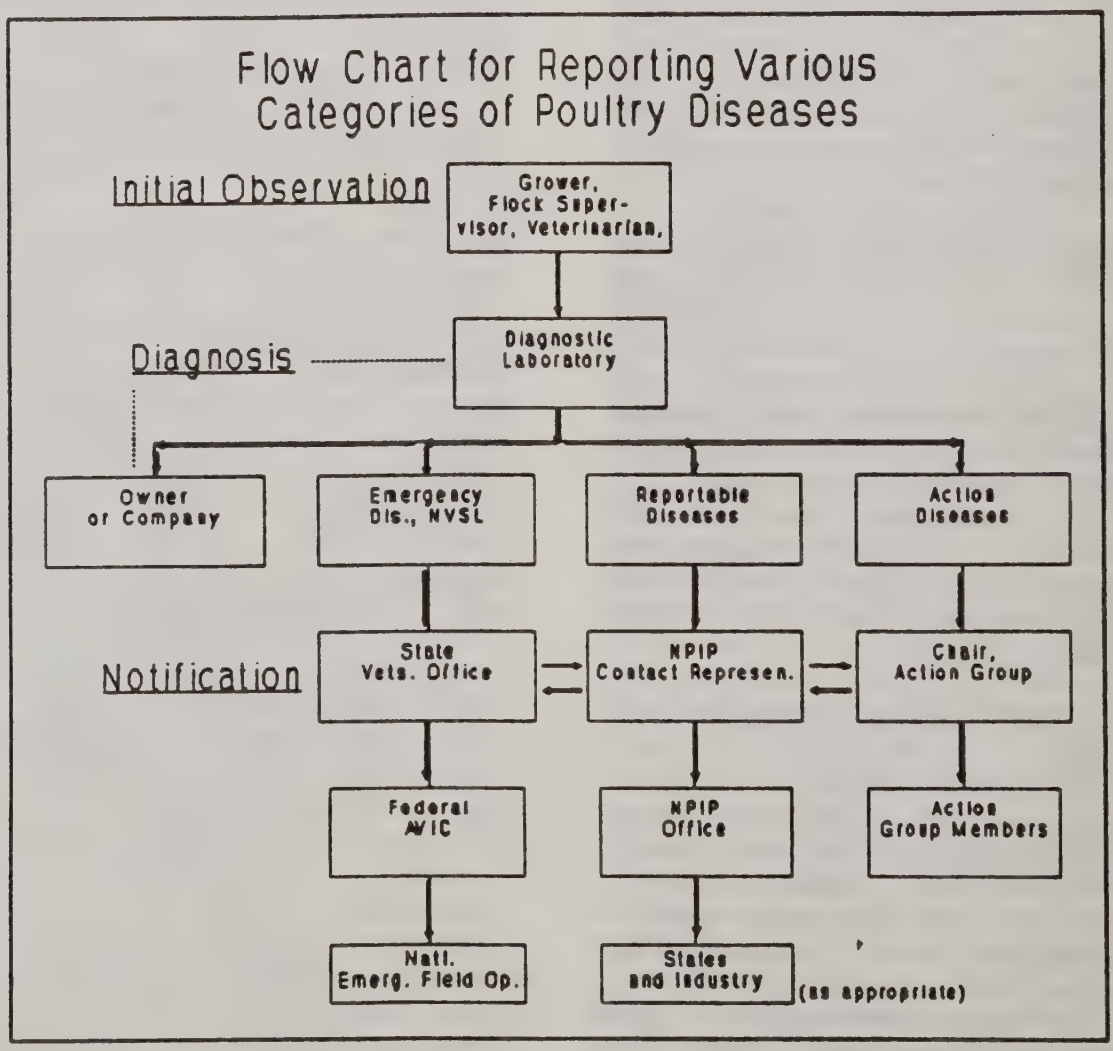
in a timely and effective fashion.
(d) System for notifying the Official State Poultry Health Authority of cases of Reportable Disease and the designated U.S. Department of Agriculture (USDA) Area Veterinarian in Charge of cases of Emergency Diseases.
B. In order for a State to be recognized by the Service as participating the **U.S. POULTRY DISEASE MONITORED AND CONTROLLED PROGRAM**, it must have the following additional capabilities and/or facilities to control **Reportable Diseases:**
(a) The ability to clean and disinfect live-haul conveyances, crates, and equipment, as required by the Official State Health Authority.
(b) Appropriate staff to compile and analyze disease reports.
(c) Program for depopulation and disposal of flocks affected with specified Emergency and Action Diseases when deemed necessary by Official State Poultry Health Authority.
(d) A plan for cleaning and disinfecting affected premises and equipment with inspection and supervision as required for disease control.

6. **MONITORING AND SURVEILLANCE PROGRAM.**
A. In order for a State to be recognized by the Service as participating in either one of the programs specified in paragraph 3, it must have a monitoring and surveillance program that requires:
(a) The investigation and taking of specimens when the presence of an **Action, Emergency, or Program Disease** is suspected.
(b) The required ability to conduct the following tests when clinical or diagnostic signs indicate the presence of the following diseases:
(i) Avian influenza--agar gel precipitin test on specimens from avian species and virus isolation.
(ii) Newcastle disease--serologic tests and virus isolation.
(iii) Pullorum-Typhoid--test for required flock classification and diagnostic and/or culture specimens.
(iv) Mycoplasmosis--test sera for required flock classification and all diagnostic specimens.
(v) Other Action Diseases--test and culture as indicated by clinical or diagnostic signs.
B. In order for a State to be recognized by the Service as participating in the, **U.S. POULTRY DISEASE MONITORED AND CONTROLLED PROGRAM**, it must have the following additional monitoring and surveillance program that requires:
(a) In the event of **HIGHLY PATHOGENIC AVIAN INFLUENZA** being isolated in the State, the following testing program shall be conducted on all flocks associated epidemiologically with the infected flock until danger of spread of the disease is past or until 30 days have passed without a positive test:
(i) Slaughter plants-serologic test on 20 samples from each flock slaughtered.
(ii) Egg production flocks-egg yolk antibody test on 30 eggs or 20 serologic tests from each commercial flock each month.

(b) In the event of **Monitored Diseases** or other diseases which appear to be causing losses of epidemic proportions in a flock, the State shall conduct appropriate monitoring tests on all flocks located on premises adjacent to the premises on which the infected flock is located or where epidemiologic evidence suggests exposure to the infected flock.

7. **REPORTING OF DISEASES.**

A participating State must ensure that all diagnostic laboratories within the State will make the initial report of a **Reportable Disease** to the appropriate State and/or industry official as designated by the Official State Poultry Health Authority. This official will take any appropriate action involving the affected flock and/or product, if necessary, notify the proper agency responsible for appropriate action. The following sequence is suggested for reporting the various categories of diseases. The sequence may vary for individual States.



8. MOVEMENT OF PRODUCTS. Each State participating in this program shall enforce certain requirements for the intrastate and interstate movement of poultry and unprocessed products. No restrictions are imposed on the movement of processed products.

(a) Shipments made from a State which has had No Monitored Diseases reported within the past 6 months shall meet the following requirements:

PRODUCT SHIPPED FROM	INTRASTATE	INTERSTATE
Non-participating	No restrictions	Permit from the receiving State, if it is a participating State
Participating State	No restrictions	No restriction

(b) Shipments made from a State which has had a Monitored Disease reported within the past 6 months shall meet the following requirement:

PRODUCT SHIPPED FROM	INTRASTATE	INTERSTATE
Non-participating State	No restrictions	Permit from the receiving State, if it is a participating State
U.S. POULTRY DISEASE MONITORED	No restrictions	Permit from the receiving State, if it is a participating State
U.S. POULTRY DISEASE MONITORED AND CONTROLLED STATE	State permit, if from a premises epidemiological-ly associated with an infected flock	Permit from the receiving State, if it is a participating State

BIOSECURITY GUIDELINES

1. Never allow live bird buyers and equipment on premises without complete cleaning and disinfection .
2. Visitors- Require shower, clean clothes, clean coveralls, overshoes or other scheme to prevent tracking disease organisms.
3. Scheme to prevent contamination by wild birds, cage pet birds, and backyard

fowl.
4. Prevent contamination by egg cases, trucks, tractors, debeakers, medicator, fencing, crates, feeders, and waterers.
5. Develop a prompt and effective dead bird disposal scheme.
6. Poisoning, trapping, screening, spraying or housing to prevent contamination by wildbirds, rodents, or insects.

PREVENT FEED OR FEED SOURCE CONTAMINATION

1. Consider-Properly pelleted feed and feed mill and feed truck driver contaminations.
2. Clean up promptly any and all feed to prevent wild bird and other animal contamination.

PREVENT REPLACEMENT STOCK CONTAMINATION

1. Consider- Breeding flock biosecurity and management programs.
2. Vaccination and management program of breeding flock to ensure healthy day old poultry with adequate levels of protective antibodies and responsive immune system.
3. Freedom from known egg-transmitted diseases.
4. Well thoughtout biosecurity and management scheme from hatching egg delivery and hatchery sanitation.
5. Scrupulously clean sanitation program for hatcheries, handling of day old poultry, delivery trucks, and delivery personnel.
6. Separation of breeding flock replacements.

PLAN FOR A DISEASE PROBLEM

1. Divide corporate flocks into units to prevent spread of disease within organization.
2. Develop plans for restricting spread and possible depopulation of a unit.

PREVENTING AVIAN INFLUENZA AND OTHER POULTRY DISEASES

WATERFOWL AS THE RESERVOIR.

The reservoir of avian influenza (AI) is the native and migratory waterfowl population. Research in Canada and Minnesota has shown that 60 to 80 percent of juvenile mallard ducks, though not showing signs of illness, may be infected. Other waterfowl are also infected although the infection rate may be lower. University of Minnesota research has shown that the infection typically is detected in sentinel mallards from late July until the ponds freeze over in November.
The AI virus inhabits the intestinal tract and is excreted in the droppings. A single duck can excrete billions of viruses per day. The virus is sensitive to heat but thrives in cold, moist conditions. It is preserved by freezing. These characteristics result in heavy contamination of pond and slough water, especially when the water is cold. Since waterfowl are continually excreting the virus, the amount of virus in the pond or slough and surrounding environment will increase dramatically in the fall as water temperatures drop. Migrating waterfowl add even more AI virus to this environment.

HIGH RISK AREAS.

Not only waterfowl and their habitat but also other birds (particularly those sharing waterfowl habitat), skunks, raccoons, and rodents may become infected or contaminated with the AI virus. Because ranges, pens and the area outside poultry houses cannot be kept free of these animals, they must also be considered contaminated with AI, particularly during the high-risk period of the spring waterfowl migration (April-May), the summer waterfowl brooding and growing period(July-September), and the fall migration (October-November).
Range or pen turkeys, domestic waterfowl, and yard poultry of any kind are also impossible to maintain "known free" of influenza and so must always be considered infected carriers.

PREVENTION MEASURES.

To effectively prevent the introduction of AI, any conceivable contact between the high-risk contamination areas and the poultry population must be avoided. The following measures have been identified:

1. Do not hunt, trap, or fish on the same day you take care of poultry. Bird hunters should be aware that the game they bag are likely to be infected.
2. Do not allow clothes used for hunting, trapping, or fishing on poultry farms unless they have been laundered.
3. Do not allow vehicles, boats, equipment used for hunting, trapping or fishing to enter a poultry farm unless they have been washed with detergent and disinfected.
4. Do not bring game or fish onto a poultry farm unless they have been dressed and packaged.

5. Isolate ponds, sloughs, and stream from poultry. Do not walk directly from such environments into poultry houses. Do not use pond water for watering poultry.
6. Do not allow pets, especially dogs, to enter a poultry house, pen, or range.
7. To the extent practical (depending on confinement scheme) have a control program for wild birds, rodents, skunks, and raccoons. Trapping of such animals must occur away from poultry and must be done by someone other than farm help.
8. No other poultry of any kind, particularly domestic waterfowl, should be allowed on the farm.
9. Because any flock is potentially infected, it is strongly recommended that members of the farm household not work in a poultry processing plant.
10. It is also strongly recommended that anyone helping with load-out of one flock not have any contact with another flock.

EARLY DETECTION.

The early detection of AI is the key to controlling its spread. Often in an outbreak the first flocks to be infected go through a silent infection (no evidence of disease) or become ill from another disease agent so that the diagnosis is missed. Clinical signs and lesions may lead to improper

diagnosis; e.g., cholera or E. coli infection. These flocks, as well as incubating and convalescent flocks, are excreting AI virus while they appear healthy; thus, there is no such thing as "known nonexposed" or "known noninfected" flock. However, early detection and reporting of outbreaks have resulted in adoption of control measures to reduce the economic loss to the poultry industry.

MEASURES TO AVOID SPREAD.

AI affects the respiratory and digestive systems. Thus, within a poultry house, bird-to-bird transmission is probably by aerosol and droppings. The greatest excretion of influenza virus is in the droppings; so poultry manure is the greatest source if transmission from flock to flock.

All methods for controlling the spread of AI are based on preventing the contamination of and controlling the movement of people and equipment.

Anyone can transmit AI, but people that have direct contact with birds or their manure have been the cause of most AI transmission.

Once the disease has been detected and reported. Stringent disease control measures must be taken. Half-hearted or routine disease control procedures are not sufficient to stop the spread of AI.

Don't increase human farm-to-farm traffic! Because flocks can have undiagnosed influenza and can excrete the virus for up to 14 days prior to the onset of illness, it is impossible to say for certain that any flock is unexposed or uninfected. All flocks must be considered either infected or potentially infected.

Consider each flock you have visited infected and each flock you plan to visit free from infection. Bring nothing to a flock and take nothing away.

Be a good neighbor; if you have or suspect AI, initiate a self-imposed quarantine.

The following management steps are designed to keep AI from escaping infected farms and from entering noninfected farms.

PEOPLE AS TRANSMITTERS.

People who work with, and especially handle, birds and manure are the major concern for influenza transmission. Use as logbook in each house to record visitors. If infection occurs, this log will help you track down other potentially exposed flocks. Specific measures to follow are:

1. Allow no unnecessary or unauthorized visitors into the flock. Do not allow other growers to visit.
2. Make no unnecessary visits to other farms.
3. Review policy with all employees.
    a. no other poultry on the farm.
    b. no other poultry at home.
    c. no other family members

can work in a poultry meat processing plant, hatchery, or assist in load-out.
4. Establish a pattern for necessary traffic by supervisors. Visit no more than on flock per day! If you must visit more than one flock per day, wear clean boots, coveralls, and hats at each site and wash your hands, arms, and face between sites.
5. Provide boots and coveralls for necessary visitors; e.g., repair persons.
6. Inspect everyone who comes to the farm for cleanliness and evidence of bird contact.
7. Do not allow truck drivers to enter the building.
8. Require part-time help and crews to wear freshly laundered clothing or clothing supplied on the farm each day. Do not allow persons employed at other poultry operations on the premises.
9. Isolate dead bird disposal. Maintain pits properly and be aware that rendering trucks and barrels can spread the disease. Control traffic to and from bird disposal.
10. If there are several farms in your organization, establish zones to prevent one person from traveling to all farms.

EQUIPMENT AS TRANSMITTERS.

Equipment that comes in direct contact with birds or their manure should not be moved from farm to farm. Do not allow the traffic area near the poultry house to become contaminated with manure! Specific measures to follow are:

1. Wash with detergent and disinfect moving and load-out equipment (loaders, trailers, batteries, coops, tarps, panels, and rails).
2. Wash with detergent and disinfect vehicles used in loading and moving birds after unloading. Cabs must be cleaned.
3. Wash and disinfect farm cleanout equipment (tractors, trailers, pumps, sprayers, etc.) taken from farm to farm.
4. Maker sure that service persons' vehicles are not contaminated with litter or birds. They should be cleaned and disinfected at least daily or after being on a farm where AI is suspected.
5. Enclose birds taken to the laboratory in plastic bags.
6. Carefully wash and disinfect chick/poults boxes and the truck after returning to the hatchery.
7. Send eggs to processing or the hatchery only on dedicated, washed, and disinfected plastic or new paper flats and dedicated cases, pallets, or racks.
8. Do not allow shavings trucks to enter the house.
9. Do not allow chick/poult delivery trucks to enter the house.
10. Do not allow delivery vehicles in areas grossly contaminated with manure.
11. If possible, feed suppliers should set aside a truck to be used only for deliveries to infected farms. Do not pick up feed from a farm.
12. Wash clothing (rubber boots, coveralls, gloves, etc.) to be used at another farm with detergent in hot water. Clothing for visitors or service persons may be kept in the entryway without laundering.

Other carriers--wild birds, rodents, skunks, raccoons, pets, dead birds-- must be completely controlled to prevent the spread of AI from farm to farm. AI has been detected on flies, so fly control, as well as insects, is also important.

MODEL STATE GUIDELINES ON RESPONDING TO DISEASE ALERT

I. **FORMATION OF ACTION GROUP (OR TASK FORCE).**

The purpose of the Action Group is to develop and implement plans to stop a threat or to control and/or eradicate emergency poultry diseases (EPD) or Action Disease that could result in serious economic losses to the commercial poultry industry. Such diseases include velogenic viscerotropic Newcastle disease (VVND), avian influenza, infectious coryza, ILT outbreaks with high mortality, etc.

II. **ACTION TO BE TAKEN BY GROWERS WHEN SUSPECTED ACTION DISEASE IS FIRST NOTICED.**

A. Immediately telephone flock supervisor or diagnostic laboratory of suspicion.

III. **SUPERVISOR IMMEDIATELY GIVES THIS FLOCK TOP PRIORITY.**

IV. **PROCEDURE FOR HANDLING SUSPECT FARM PREMISES BY FLOCK SUPERVISOR.**

A. Have emergency kit in car.
B. Park vehicle well away from poultry house, preferably in a well graveled or grassed area.
C. Put on all wearing apparel (clean); disinfect boots and gloves immediately on arrival.
D. If an EPD or Action Disease is suspected by the supervisor, collect specimen for diagnosis and use recommended procedures:

1. Select live symptomatic or fresh dead birds. To prevent tearing of the bag, cut off beak and feet of dead birds at hock prior to putting these birds in the plastic bag and sealing it. Fluorescent antibody (FA) procedures require live birds. Suspect birds (dead or alive) should be handled in such a manner as to minimize contamination from fecal matter or any other body exudates or feathers.
2. Tie off bag.
3. Disinfect bag and place in second plastic bag.
4. Disinfect second bag.
5. Put boots, gloves, coat, and hat in disinfectant and handle routinely.
6. Be careful to avoid contamination of vehicle.
7. Alert appropriate diagnostic laboratory and await instructions:

7(a). List of diagnostic laboratories in State with addresses and telephone numbers.

8. Launder laboratory coats.
9. Avoid contact with poultry or poultry industry personnel until there is complete decontamination of individual and car.
10. Run car through car wash and spray inside with disinfectant prior to visiting another farm.
11. If for any reason other assistance is needed, radio or telephone your company office.
12. Implement company quarantine.

V. ACTION OF LABORATORY MAKING PRESUMPTIVE DIAGNOSIS OF AN EPD OR ACTION DISEASE.

A. Laboratory making presumptive diagnosis will contact company involved regarding results. This should be done within 3 hours of submitting chickens to Laboratory, if possible.
B. Action after positive laboratory presumptive diagnosis of an EPD or Action Disease.

1. CALL ACTION GROUP CHAIRMAN OR TASK FOR CHAIRMAN.
2. ACTION GROUP WILL SCHEDULE MEETING (IN COOPERATION WITH CHAIRMAN) AND CALL ACTION GROUP OR TASK FORCE MEMBERS.
3. CONTACT STATE AND FEDERAL OFFICIALS.
4. IF NEED IS INDICATED, IMMEDIATELY SEND APPROPRIATE SAMPLE TO THE NATIONAL VETERINARY SERVICES LABORATORIES (NVSL), AMES, IOWA.

EMERGENCY DISEASES. Diseases which are exotic and for which Federal programs exist for eradication of any out break(VVND), lethal avian influenza, ornithosis).

ACTION DISEASES. Diseases designated by the State for immediate action to eradicate or control; e.g., all emergency diseases, plus possible ILT, avian influenza, infectious coryza, and other reportable diseases.

REPORTABLE DISEASES. Designated poultry industry disruptive diseases.

VI. REQUIREMENTS OF COMPANY QUARANTINE.
A. Eliminate all service and other visits to that farm, including supervisor, repair, and maintenance personnel.
B. Fully inform grower of the problem and danger involved.
C. Specifically restrict movement of grower and family individuals and employees.
D. Suspend feed deliveries until a specific program is outlined by State task force.
E. Birds will be moved according to procedures outlined by State task force, including dead bird disposal.
F. State task force will outline procedures for house(s) after removal of birds.
G. Withhold placements until suspect outbreak is diagnosed.
H. Post quarantine signs at entrance to farm and on poultry house doors.
I. Procedures for feed deliveries- assisted by flock supervisor:

1. Make delivery a last stop for unloading mixed load.

2. Driver must not enter poultry house.
3. Driver must wear plastic boots.
4. Truck must be run through truck wash before delivering feed to another farm.
5. Spray disinfectant inside the truck cab.
6. Keep truck doors closed during unloading operation to keep flies and other insects out. Spray household aerosol insect killer in cab before leaving farm.

J. Grower and family restriction.
1. Limit flock management to specific individuals.
2. Fully inform these individuals on procedures for clothing, disinfection, dead bird disposal, and limitations on their off-farm sources of contamination.
3. Other family members working away from the farm must not enter poultry house.
4. Family members who work off the farm must not have contact with any other poultry or pet birds.

VII. **ACTIVITIES OF ACTION GROUP OR TASK FORCE.**

A. Immediate meeting to be called after laboratory presumptive diagnosis.
B. Activity:
1. Do epidemiological survey of all activities on farm, especially 72 hours prior to positive presumptive diagnosis.
2. Plan emergency services necessary and establish time schedule for expediting these services.
3. Identify other potentially exposed farms and outline procedure for handling. Use county maps to facilitate this step.
4. Outline and implement appropriate dead bird disposal for all quarantined farms.
5. Make specific recommendations on the company quarantine.

VIII. **MISCELLANEOUS COMMENTS.**
A. All supervisors must have the following emergency kit during an EPD or Action Disease alert.
1. Boots
2. Plastic bags
3. Disinfectant
4. Copy of this procedure manual or similar company emergency manual.
5. Brush
6. Bucket
7. Coat or coveralls
8. Cap
9. Rubber gloves
10. Five quarantine signs (driveway and poultry house door)

B. All newly hired flock supervisors (full or part-time) must be given information on how to conduct themselves if they encounter an EPD or Action Disease situation.

... plastic ...

... be ... through ... delivering ... farm.
... forward ... aside

... smoke ... loaded ... operation ... used ... aerosol ...

... family

... these ... for ... limitations ...

... farm must ... contact ...

VII ... [illegible] ... NOTICE

... meeting to be called ... laboratory ... positive diagnosis ...

1. Do a epidemiological survey of all activities on farm, especially 72 hours prior to positive presumptive results.
2. Plan ... necessary and ... schedule for ... services.
3. Identify other exposed ... procedure for ...

county area to family ...

... and appropriate ... farm ...
... recommendations on the ... ...

VIII. ...
A. All supervisors ... the following ... during ... plant.
1. ...
2. Plastic ...
3. Disinfectant
4. Copy of this manual or similar emergency manual.
5. ...
6. Bucket
7. Coat or coveralls
8. Cap
9. Rubber gloves
10. Five ... (driveway ... d...)

B. All ... supervisors ... must be given ... how to conduct ... Disease situation.

U.S. PULLORUM-TYPHOID CLEAN STATE-NATIONAL POULTRY IMPROVEMENT PLAN
SUGGESTIONS FOR MEETING REQUIREMENTS REGARDING EXHIBITION POULTRY

1. ENLIST HELP TO PUBLICIZE REGULATIONS REQUIRING TESTING OF EXHIBITION POULTRY.

   A. State Extension Poultrymen and Veterinarians.
   B. County Agricultural Agents.
   C. Vocational Agriculture Teachers.
   D. Official State Agencies/State Veterinarians of neighboring States.
   E. Notice of requirement in rules and premium lists published by Fairs or Shows.
   F. Announce at Fairs and Shows that next time birds are exhibited, they will have to be U.S. P-T Clean or equivalent or tested at the exhibition.

2. DETERMINE LOCATION OF POULTRY EXHIBITIONS, SHOWS, FAIRS.

   A. State Fair or County Fair Associations.
   B. State Extension Poultrymen, County Agents, and Vo. Agri. Teachers.
   C. Announcements in trade papers and magazines.

3. DETERMINE LOCATION OF EXHIBITION FLOCKS AND HATCHERIES.

   A. List of entrants in poultry shows (State, County, Local Fairs and Shows -- Breed shows, etc.).
   B. State Extension Poultrymen, County Agents and Vo. Agri. Teachers (4-H and FFA).
   C. Trade papers and magazines, classified ads in local papers, association newsletters and magazines, etc.

4. PERSONS TO UTILIZE FOR BLOOD TESTING BIRDS (after adequate training).

   A. State poultry inspectors.
   B. State egg inspectors.
   C. Animal health agents.
   D. State field veterinarians.
   E. Vo. Agri. teachers.
   F. Breed club members.
   G. County or Regional poultry club members.
   H. 4-H or F.F.A. club members.
   I. Testing agents for commercial hatcheries.

5. PROVIDE FOR TRAINING OF AUTHORIZED TESTING AGENTS.

   A. Provide regional or State-wide training schools.
   B. Announce schools at shows, fairs, poultry meetings and in poultry press.
   C. Provide on-the-job training for two or more agents at local or breed shows
   D. Arrange to work with or check test the work of agents as often as possible
   E. Publish list of authorized testing agents.
   F. Have list of agents sent out to prospective exhibitors along with material from the show or fair.

6. ENFORCEMENT OF REQUIREMENTS.

A. State poultry inspector, egg inspector, animal health agent or field veterinarian be at each show to blood test those exhibited birds which were not previously qualified.
B. After two years, poultry show manager can be given responsibility of admitting to the show only those birds which were previously qualified.
C. State poultry inspector/field veterinarian occassionally check-test birds which were previously tested and qualified by testing agents.
D. State periodically provide refresher courses for testing agents and complete training courses for new agents.